~ ~		•	D	•	1.0	# 504		00	4.0	Dia	1.00	# [500
C/ 00	SC	0	P	•	L 0	# 581	C/ 1	SC	1.3	P 46	L33	# 506
Brown, Ma			•	nawave Sen	ni		Dawe, Pie			Nvidia		
Comment		Т	Comment Status	_		AUI Generations	Comment		TR	Comment Status D		MDI references (bucket)
Given that w	that the	e PMA mu	ultiplexing methods to a different PMA n	were consis	tent this was	w PHY type defined. simple to support. Now FEC symbol) things are	Add and update connector references as necessary. This is what is in 1.3: SFF-8402, Rev 1.1, September 13, 2014, Specification for SFP+ 1X 28 Gb/s Pluggat Transceiver Solution (SFP28). SFF-8432, Rev 5.1, August 8, 2012, Specification for SFP+ Module and Cage. SFF-8436, Rev 4.8, October 31, 2013, Specification for QSFP+ 10 Gb/s 4X Pluggabl					
Suggested	dReme	dy					SFF-8 Transo		ev 4.8, O	ctober 31, 2013, Specification	for QSFP+	10 Gb/s 4X Pluggable
genera	ations c	of AUI. Sp	ecifically, the new P	HY types d	efined in 802.	nly one or two previous 3dj indication only 100	SFF-8	665, R		ne 29, 2015, Specification for QSFP28).	QSFP+28	Gb/s 4X Pluggable
			e AUIs as well.	as being op	otional within a	a PHY. Perhaps, also	Suggested	Reme	dy			
Proposed	Respor	nse	Response Status	W			Use th	ese foi	r now (mo Small For	st will be updated before this m Factor Pluggable Module, F	project is do	ne): ober 2, 2022
For the suppo	e new 2 ort only 3	200GBAS	IN PRINCIPLE. E-R and 400GBASE 100 Gb/s, and 200 G on.			3dj, only specify	QSFP 8x Plu SFF-8 SFF-T	-DD/QS ggable 665 Re A-1011	SFP-DD8 Transcei v 1.9.4, 2	2024-04-19, Cross Reference	Specification 2023 able Transce	for QSFP Double Density
CI 00	SC	0	P	0	LO	# 185	Module SEE-T		7 Rev 1 0	, 2024-04-16, QSFP2 Connec	tor Cage &	Module Specification
Brown, Ma	att		Alph	nawave Sen	ni		SFF-T	A-1031	, Rev 1.0	, 2023-06-11, SFP2 Cage, Co		
Comment	Туре	т	Comment Status	s D	Mac	hine Convention (bucket)				ecification.html n/specification/		
						e the operator "++" to				ents from 179C.		
			le be incremented b	y 1. Howev	er, this operat	or is never defined.	Proposed	Respoi	nse	Response Status W		
Suggested							-			IN PRINCIPLE.		
		e 21 andà to include	definition of "++.				Impler	nent su	uggested	remedy with editorial license.		
Delete in the	e the fol state d	llowing fro iagrams fo	m state diagram co	ons of 21.5.	The notation	ses. "The notation used ++ after a counter or						
Proposed	Respor	nse	Response Status	w								
Import Amen	t Claus d 21.5 t	e 21 and to include	IN PRINCIPLE.	nventions ir	175.2.6.1, 1 [°]	76.5.1.6, 177.6.1,						
"The r increm	nented.	++ after a	a counter or integer	variable inc	icates that its	value is to be						

C/ 1 SC 1.3

C/1 SC 1.4.184	da P49	L 43	# 309	C/ 1	SC 1.4.18	lda	P 49	L 47	# 310
'Ambrosia, John	Futurewe	i, U.S. Subsidiary of	fHuawei	D'Ambrosia	a, John		Futurewei, L	.S. Subsidiary of	Huawei
1.4.184e - "The term Physical Coding Sub	Comment Status D efined as using 800GBASE 800GBASE-R represents a layer (PCS) defined in Clau 9-3a,uses PCS encoding a	a family of Physical ise 172 for 800 Gb/s	Layer devices using the soperation." This PHY	1.4.184 Physica	ASE-ER1-20 le - "The term al Coding Sub	is defined as 800GBASE- blayer (PCS) o	R represents a fa defined in Clause	mily of Physical L	ER1 PHY (bucket, per 802.3df-2024, ayer devices using the operation." This PHY 86.
SuggestedRemedy				Suggested	Remedy				
	family / encoding based or ntry for 800GBASE-ER1 to							lause 186 encodi lect new family n	
	tly points out that the definit	tion is not correct. H	lowever, it is not	-	OSED ACCEI	Respons PT IN PRINCI sponse to co			
Change the definition 1.4.184da 800GBASE using 800GBASE-EF amplitude modulation least 40 km. (See IE 1.4.184db 800GBASE using 800GBASE-EF amplitude modulation least 20 km. (See IE	necessary to define a new family. Change the definition of 800GBASE-ER1 and 800GBASE-ER1-20 to the following: 1.4.184da 800GBASE-ER1: IEEE 802.3 Physical Layer specification for 800 Gb/s PHY using 800GBASE-ER1 PCS and PMA encoding, dual polarization 16-state quadrature amplitude modulation (DP-16QAM) modulation, and coherent detection with reach up to at least 40 km. (See IEEE Std 802.3, Clause 186 and Clause 187). 1.4.184db 800GBASE-ER1-20: IEEE 802.3 Physical Layer specification for 800 Gb/s PHY using 800GBASE-ER1-20: IEEE 802.3 Physical Layer specification for 800 Gb/s PHY using 800GBASE-ER1 PCS and PMA encoding, dual polarization 16-state quadrature amplitude modulation (DP-16QAM) modulation, and coherent detection with reach up to at least 20 km. (See IEEE Std 802.3, Clause 186 and Clause 187). Implement with editorial license.				ood Sequence Remedy	LSD" is used e Detection ar um Likelihood		in Annex 178A to ed to the abbrevia	# 7 <u>4</u> (bucket) reference Maximum ttions list.
C/ 1 SC 1.4.184 Huber, Thomas	da P49 Nokia	L 44	# 111	-		PT IN PRINCI d remedy with	PLE. n editorial license		
Comment Type T Since 800GBASE-Ef ER1 and ER1-20 sho encoding SuggestedRemedy Change 800GBASE- Proposed Response PROPOSED ACCEF	Comment Status D R1 and -ER1-20 have a sep uld refer to 800GBASE-EF R to 800GBASE-ER1 for b Response Status W	1 encoding rather t	han 800GBASE-R						

C/ 1 SC 1.5

CI 30	SC 30)	P 56	L 33	# 369	CI 45	SC 45	P 57	L1	# 603
He, Xiang)		Huawei			de Koos,	Andras	Microchip Te	chnology	
Comment	Туре	TR	Comment Status D		timesync (bucket)	Comment	Туре Т	Comment Status D		timesync(bucket)
	TimeSync Ind 184.	entity ma	naged object classes for In	ner FEC sublay	vers defined in Clause			77 or Clause 184) needs MDIO ID clause registers.	D registers for	TimeSync. They should
Suggeste	dRemedy					Suggeste	dRemedy			
Add re	egister set	t for Inne	FEC sublayers in subclaus	es of 30.13.1: (30.13.1.1 - 30.13.1.14)		he following MI PMD MDIO reg	NO registers for the Inner FEC, isters	in the same s	style as the equivalent
(Prese	entation w	vill be pre	pared for this comment.)				eSync capabilit			
•	Response POSED RI		Response Status W					path data delay register bath data delay register		
			sentation was reviewed by t	he 802.3di task	force during the May	Proposed	Response	Response Status W		
https:/	presentatio	e802.org/	'3/dj/public/24_05/he_3dj_01 ot provide sufficient detail to		equested change in	The fo Interir	ollowing related	T IN PRINCIPLE. presentation was reviewed by org/3/dj/public/24_05/he_3dj_0	,	sk force during the May
C/ 30	SC 30).3.2.1.2	P 53	L11	# 112	The re	egister bits and	names described on page 8 of	the presenta	ion will be used with the
Huber, Th	nomas		Nokia					ility bits will be added to examp		
Comment	Туре	т	Comment Status D		(bucket)		on 1.1820 onwa	.1800)" and the new delay regi	sters will be a	dded to MMD 1 from
There	should al	so be an	entry for 800GBASE-ER1 si	ince it is a diffe	rent PCS					
Suaaeste	dRemedy							er bits and names described or ability bits will be added to ex		
Add a			ction to insert 800GBASE-EI	R1 after 400GE	BASE-R.(or before the	capat		.1800)" and the new delay regi		
	Response POSED A		Response Status W			Imple	ment with edito	rial licence.		
CI 30	SC 30).3.2.1.3	P 5 3	L 21	# 75					
Huber, Th	nomas		Nokia							
Comment		т	Comment Status D		(bucket)					
			entry for 800GBASE-ER1 si	ince it is a diffe	()					
Suggeste	dRemedy		-							
Add a			ction to insert 800GBASE-EI	R1 after 400GE	BASE-R (or before the					
	Response POSED A		Response Status W							

C/ 45 SC 45

C/ 45	SC 45	P 81	L 9	# 370	C/ 45	SC 45.2.1.6	Dc P67	L 21	# 509
He, Xiang		Huawei			Dawe, Pier	s	Nvidia		
Comment 7	ype TR	Comment Status D		timesync(bucket)	Comment T	Туре Т	Comment Status)	(bucket)
		igsters for Inner FEC sublaye	ers defined in Cla	ause 177 and 184.			0GBASE-ER1 and 800 aving less reach, should		n different registers, and
Suggestedl Add de 30.1.1.	finitions for the	new register set defined for t	he Inner FEC su	blayers in 30.3.1.1 -	Suggested Move 8	Remedy 300GBASE-ER	I from 1.73.14 to 1.74.0 BASE-LR20-1 ;)		to reserved - maybe it
(Preser	ntation will be p	repared for this comment.)			Proposed F	Response	Response Status V	v	
Proposed F	Response	Response Status W			PROP	OSED ACCEPT	-		
	OSED REJECT owing related p	presentation was reviewed by	the 802.3dj task	force at the May	CI 73	SC 73	P 83	L1	# 460
	meeting:	ra/2/di/public/24 OF/bc 2di (1 2405 pdf		Slavick, Je	ff	Broadco	om	
		rg/3/dj/public/24_05/he_3dj_(cerns TimeSync managemen		ne register set	Comment 7	Туре Т	Comment Status)	(bucket)
A differ Anothe which v There is	ent comment (# r comment (#18 vill require new s insufficient de	4" rather than "30.3.1.1 – 30. #603) addresses adding regis 33) concerns adding addition registers. tail given in this comment (# or inner FEC register definitio	sters for inner FE al status counter 370) and comme	s for the inner FEC	when N arrangi how Ne Suggested	Next Pages are ing the order in ext Pages are d <i>Remedy</i>	ext Page to advertise IE introduced, defined and which AN is specified w efined, how to use them	then used is a bit ou ould help readers to	t of order. So re- better understand what
/ 45	SC 45.2.1.60)b P65	L17	# 507	Presen	tation will be pr	ovided.		
Dawe, Pier		Nvidia			Proposed F		Response Status V	V	
countin S <i>uggestedl</i>	n't LR4 come b g the bits forwa Re <i>medy</i>		ower) and the or	<i>(bucket)</i> der goes up the page,	The fol meetin https:// Implem	lowing presenta g. www.ieee802.o	IN PRINCIPLE. ation was reviewed by th rg/3/dj/public/24_05/slav s proposed in slavick_3 tructions.	vick_3dj_01_2405.pd	f
		and 800GBASE-LR1			C/ 73	SC 73	P 85	L 9	# 149
Proposed F		Response Status W			Mi, Guango			Technologies Co., L	
PROPO	DSED ACCEPT	-			Comment 7		Comment Status	0	(bucket)
/ 45	SC 45.2.1.60)b P65	L 24	# 508			the indication of highers		(50000)
awe, Pier	S	Nvidia			Suggested	•	0		
omment T	<i>уре</i> т	Comment Status D		(bucket)	00		in the capability column	to 1.6Tb/s 8 lane. hi	ghest priority.
		s longer reach than 800GBAS	SE-FR4-500	· /	Proposed F		Response Status V		
Suggested Swap ti Proposed F	nem Response	Response Status W			PROP Table 7 defined	OSED REJECT 73-5 already inc 1 in Table 73–5		and 73.7.6 contains th	
PROPO	DSED ACCEPT								
	STATUS: D/di	ed ER/editorial required GR spatched A/accepted R/reje				Z/withdrawn		CI 73 SC 73	Page 4 of 137 5/31/2024 10:47:

SORT ORDER: Clause, Subclause, page, line

CI 73	SC 73.9	0.1.1	P8	6	L 26	#	194
Ran, Adee			Cisco)			
Comment Ty	vpe TI	२ Ca	omment Status	D			ILT RTS SI

The existing semantics of the link_status parameter of AN_LINK.indication enables only two values, OK and FAIL. This imposes a need to bring up a link within a specified time (link_fail_inhibit_timer), otherwise AN will restart (per the Arbitration state diagram, Figure 73-11). This can cause numerous problems in a segmented link.

The AN should be tolerant to a link in which one or more of the devices is still in the process of training. This can be achieved by adding a third possible value to link_status, indicating that the negotiated PHY is still training.

SuggestedRemedy

A presentation with proposed content is planned.

Proposed Response	Response Status	W	

PROPOSED REJECT.

This proposal might cause AN to be stuck in the AN GOOD CHECK state as shown in "Figure 73–11—Arbitration state diagram". It also requires each PCS to exercise control over a new "IN_PROGRESS" parameter value. The proposed change needs careful consideration before being accepted by the CRG.

Pending CRG review of the following contribution which was reviewed by the Task Force during the May Interim meeting: https://www.ieee802.org/3/dj/public/24_05/ran_3dj_05_2405.pdf

Resolve along with comment #195

[Editor's note: CC]

C/ 90A SC 90A	P 519	L 43	# 456
Opsasnick, Eugene	Broadcom		
Comment Type T	Comment Status D		(bucket)

In table 90A-1, the column titled "Alignment marker/ codeword marker insertion/removal" has a value of 2.56ns for 1.6T in the last row. This value should be the xMII time (at MAC data rate) of one Alignment marker block. The 1.6TE PCS lanes are now running at 100G vs 25G for slower speeds, so this number does not scale directly from the other entries. The value for the 1.6T row should be 1.28ns (a full AM group = 8 256b/257b blocks, so the MII time = 8 * 256 / 1600 = 1.28ns). Note that this column has correct values for 25G, 40G, 50G, and 100G. However, the value listed for 200G, 400G and 800G of 2.56ns should be 5.12ns and should also be fixed in maintenance.

SuggestedRemedy

Change the accuracy impairment value of 2.56 ns to 1.28 ns for the 1.6T Ethernet rate in Table 90A-1.

C/ 90A SC 90A.3	P5	19	/ 4
PROPOSED ACCEPT.			
Proposed Response	Response Status		

C/ 90A	SC 90A.3	P 519	L 43	# 330
de Koos, /	Andras	Microchip Tee	chnology	
Comment	Туре т	Comment Status D		(bucket)

For the added row in Table 90A-1, the potential timestamp accuracy impairment due to alignment marker insertion/removal for 1.6T is incorrect. It should be 1.28ns, not 2.56ns. The values for 200G, 400G, and 800G are also erroneous (should all be 5.12ns). I've filed a maintenance request to correct these, too.

SuggestedRemedy

Change 2.56 to 1.28ns in the added row for Table 90A-1

Proposed Response Response Status W PROPOSED ACCEPT.

C/ 93B SO	C 93B	P 520	L6710	# 55	C/ 116	SC 1	16	P 95	L 4	# 151
Mellitz, Richard		Samtec			Mi, Guang	Ican		Huawei Techi	nologies Co., L	td
Comment Type	TR	Comment Status D		93B (bucket)	Comment	Туре	TR	Comment Status D		(bucket
	erence to s	about "die-to-die" loss for whil section Annex 93B. One refere			Suggested	Remedy		t two column, missusage of F		
SuggestedRem Add TP0d a		o figure 93B-1 and table 93B-1			400GE	BASE-KR	2 and 4	178 and 179 in the table to to 00GBASE-CR2	he correct non	nenclature, i.e.,
Proposed Resp PROPOSE	onse	Response Status W			Proposed PROP	Respons OSED A		Response Status W		
	is not refer	enced anywhere in the draft, r	or in previous ba	ckplane PMD clauses	C/ 116	SC 1	16	P102	L 5	# 152
		updating an annex that is not r	eferenced.		Mi, Guang	Ican		Huawei Techr	nologies Co., L	td
Figure 178-	2 is used i	n this project instead.			Comment		TR	Comment Status D		(bucket
7 116 SC	C 116	P 92	L 40	# 445	200GE	BASE-R \$	SM PMA	delay constraint is missing		
Simms, William	ı	NVIDIA			Suggested	Remedy				
Comment Type spacing of t		Comment Status D 40 is different than spacing of	the same text in	<i>(editorial)</i> lin 38	Proposed	Respons	е	Response Status W		
	ng the sam onse D ACCEP1	ne <i>Response Status</i> W [⊂] IN PRINCIPLE. al license and discretion.			A sug 200GE SM-PI ambig	BASE-R 8 MA is use uous. In e 176 in t	emedy is 3:1, 1:8, ed to refe the refer he notes	not provided. and 1:1 PMA types, all SM-F erence any symbol multiplexi renced text the multiplex rations s column backs that up.	ng PMA, where	e it would otherwise be ous and the reference to
C/ 116 S(C 116	P94	L6	# 150	C/ 116	SC 1	16	P 107	L 4	# 153
Mi, Guangcan		• •	nologies Co., Ltd		Mi, Guang			Huawei Techi	nologies Co., L	
Comment Type	TR	Comment Status D		(bucket)	Comment		TR	Comment Status D		(bucket
51		t two column, missusage of PN	/ID names.			-		hould be no applicable SP1 a	nd SP6 for 113	3.4375GBd PMD lane
SuggestedRem	,				Suggested chang	-		ow SP1 and SP6 in the colu	mn of 113.437	5GBd PMD lane to N/A
		L 178 and 179 in the table to t 200GBASE-CR1	ne correct nomer	nciature, I.e.,	Proposed	Respons	е	Response Status W		
Proposed Resp		Response Status W			PROP	OSED A	CCEPT.			

C/ 116 SC 116

	P 92	L 30	# 311		C/ 116	SC 11	1614	P 94	L6		# 312
	-	L 30 S. Subsidiary of	-				10.1.4		-		
D'Ambrosia, John		5. Subsidiary of	nuawei		D'Ambrosi	,			wei, U.S. Subsi	•	
Comment Type TR	Comment Status D			FR1	Comment		TR	Comment Status			onditional PMA (bucket)
and its nomenclature 8 (e.g. FR-500). This int (DR1 is not FR1-500).	e objective to do 500m over 4 300GBASE-FR4-500, "FR" is roduces an inconsistency for In addition, when looking at ges (200GBASE-FR1, 400GB	no longer limite 200GBASE-FR 2km for 1,2,4,8	d to just represe 1 and 200GBAS 5 fibers- a confus	nt 2km E-DR1 ing	Tables 116-3, 116-4, and 116-4a, but that is not quite correct. They are conditional dependent on the PHY type and on whether specific AUIs are implemented or not. SuggestedRemedy For 100Gb/s based PHYs the 200GBASE-R BM-PMA is mandatory, all AUIs are of and 200GBASE R SM PMA is "C" / conditional if either 200GAUI-1 is implemented						nented or not all AUIs are optional,
SuggestedRemedy								PMA is "C" / condition Ys the 200GBASE-R			
,	R1 to 200GBASE-DR1-2							PMA is "C" / condition			
meeting. https://www.ieee802.or	tion was reviewed by the 802. rg/3/dj/public/24_05/dambrosi ted remedy with editorial licen	a_3dj_02a_240		l	and 40 For 20 and 40 Chang BM-PM Modify 200GE Modify 200GE Modify 200GE Modify 200GE Modify 200GE Modify 200GE Modify 200GE	0GBASE 0Gb/s ba 0GBASE e entries MA and 80 entry in BASE-R E entry in BASE-R E entry in BASE-R S entry in BASE-R E entry in BASE-R E entry in BASE-R E entry in BASE-R E entry in BASE-R E	E R SM ased PH R BM CoogBAS Table 1 BM PMA Table 1 SM PMA Table 1 SM PMA Table 1 BM PMA Table 1 BM PMA Table 1 BM PMA Table 1 BM PMA Table 1 BM PMA Table 1 BM PMA	Ys the 400GBASE-R PMA is "C" / condition Ys the 400GBASE-R PMA is "C" / condition cribed above in Tables SE-R-SM-PMA to C / 1 78-1 to 200GBASE-R must be implemente 78-2 to 400GBASE-R must be implemente 79-1 to 200GBASE-R must be implemente 81-1 to 200GBASE-R must be implemente 80-2 to 400GBASE-R must be implemente 80-2 to 400GBASE-R must be implemente 82-1 to 200GBASE-R must be implemente 82-2 to 400GBASE-R must be implemente 82-2 to 400GBASE-R must be implemente 82-2 to 400GBASE-R must be implemente 82-2 to 400GBASE-R must be implemente 82-2 to 400GBASE-R	al if either 4000 SM-PMA is ma al if either 4000 at 116-3, 116-4 a with notes as st BM PMA to Co dif a 200GAUI- BM PMA to Co dif a 400GAUI- SM PMA to Co dif a 400GAUI- BM PMA to Co dif a 400GAUI- BM PMA to Co dif a 200GAUI- BM PMA to Co dif a 200GAUI- BM PMA to Co dif a 200GAUI- BM PMA to Co	AUI-2 is ndatory, a SAUI-4 is and116-4; ated abov nditional. 2 C2C is nditional. 2 C2C is nditional. 2 C2C is nditional. 2 C2C/C2 nditional. 2 C2C/C2 nditional. 2 C2C/C2 nditional.	implemented. all AUIs are optional, implemented. Add note "c" A implemented. Add note "c" A implemented. Add note "c" A implemented. Add note "c" A implemented. Add note "c" A 2M is implemented. Add note "c" A 2M is implemented. Add note "c" A 2M is implemented. Add note "c" A

Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #317.

C/ 116 SC 116.1.4 Page 7 of 137 5/31/2024 10:47:09 AM

C/ 116	SC 116.1.4	P 94	L 6	# 530	C/ 116	SC 1	16.2.4	P 99	L1	# 314	
Rechtmar	n, Zvi	Nvidia			D'Ambrosi	ia, John		Futurewei, U.	S. Subsidia	ry of Huawei	
Comment	Туре Т	Comment Status D		Conditional PMA (bucket)	Comment	Туре	TR	Comment Status D		PMA introduction (bucket	
The S instan	nce 200GBASE-k	_PMA introduce a new case KR2 PHY cannot implement			PMA,	Clause	176 was	per lane signaling - 200GBA developed. No addition was s was made.			
	AUI-1 C2C interface be beneficial to a	ace. add a note about the conditior	s which allow/	require implementation of	Suggested	Remedy	,				
BM_F	MA and SM_PM				,	OGBAS		116.2.4 and add additional t 400GBASE-R PMAs, which		multiplexing, is specified in	
Suggestee	dRemedy						E-R and	400GBASE-R PMAs, which	supports sy	mbol multiplexing, is	
entrie	s for 200GBASE	I æbÆ next to the æOÆ mar -KR2, 200GBASE-KR4, 2000	BASE-CR2, a	nd 200GBASE-CR4. The		ied in Cla hat "PMA		5. d as a general term to repres	ent both typ	bes of PMAs for each speed.	
	the PHY	state: æApplicable only when	200GAUI-1 (2C interface is used	Proposed Response Response Status W						
	Response	Deenenee Statue M			-			IN PRINCIPLE.			
, PROF	, POSED ACCEPT	Response Status W IN PRINCIPLE. ponse to comment #312.			The comment appropriately proposes to add the new PMA types defined in Clau to differentiate the two based on multiplexing type. It is not necessary to point o may both be referred to as PMA and in fact this could be considered incorrect, s PMA in the 802.3 standard might be called a PMA.						
C/ 116	SC 116.1.4	P 98	L18	# 313				g with editorial license:			
D'Ambros	sia, John	Futurewei, U.	S. Subsidiary	of Huawei			cond se	ntence in 116.2.4 with approp	priate editor	ial instructions to the	
Comment there	51	Comment Status D 400GBASE-LR4		(bucket)	followi 200GE Clause	BĂSE-R a	and 400	GBASE-R PMAs that use bit	multiplexing	g (BM-PMA) are specified in	
Suggeste	dPomody							GBASE-R PMAs that use syr	mbol multipl	exing (SM-PMA) are	
00	,	R4 to 400GBASE-LR4-6				ied in Cla nent with		i. Il license.			
	•				mpier		· • • • • • •				
	Response POSED ACCEPT	Response Status W									

C/ 116 SC 116.2.4

C/ 116	SC 116.3.2	P 99	L 52	# 195	C/ 116	SC	116.5	P106	L 5	# 531
Ran, Adee		Cisco			Rechtman	n, Zvi		Nvidia		
Comment Ty	pe TR	Comment Status D		ILT RTS SI	Comment	Туре	TR	Comment Status D		Skew
both dire When the protocol.	ctions. ere is a physica But when two	aining requires passing the F al interface with a training pro sublayers are attached, e.g. the service interface.	otocol, RTS is co	mmunicated using the	There BM_P	is an a MA of 2	additional 2 RS-FEC	o Table 116û8. logical skew present in the 20 C CWs. These skew values sl r this table. To prevent misint	hould not be inc	luded in the skew
This can	he achieved if	the inter-sublayer service int	terface includes	hoth	Suggested	dReme	dy			
IS_SIGN	AL.indication a	neter SIGNAL_OK should be			clause	9 176 E	BM_PMA	116û8 that states: æThe addi for 200GBASE-R and 400GE ons for this table		
a sublaye	er is in the proc	cess of training. A new value	IN_PROGRESS	would enable that.	Proposed	Respo	nse	Response Status W		
SIGNAL_	OK should be	l be applied in clauses 169 a defined in annex 176A.	nd 174. The map	pping of RTS to	Table Details	116-8 i s of the	is a sumn e delay wo	IN PRINCIPLE. nary of skews specified norm puld be better specified in eac	h sublayer clau	
SuggestedRe		and a set of the strengt						fications in a broader context. conse to comment #181.		
•		posed content is planned.					e: CC 116			
Proposed Re	,	Response Status W			C/ 116	SC	116.5	P 107	L 46	# 510
		ion was reviewed by the 802	.3dj task force at	the IEEE 802.3 May	Dawe, Pie	ers		Nvidia		
Interim m	0	g/3/dj/public/24_05/ran_3dj_(75 2405 pdf		Comment		т	Comment Status D		(bucket)
	nt the propose	d changes with editorial licer			attach 802.3, lanes	ed to a , "bit" m use bir	in unchan neans MA	peared "At the PCS receive i ged number. There is no equ C bit. I don't know what poin Illing not PAM4? Nor why it is ilar.	uvalent footnote	e for Table 116-8. In making - that PCS
					Suggested	dReme	dy			
					Delete	e footno	ote f			
					Proposed	Respo	nse	Response Status W		
					The in span o	iterface	nbol. Sind	the PMA and the PCS is an ce there there is no physical s for this interface 1 UI is equiv	ignal here, only	bits are exchanged.

C/ 116 SC 116.5

C/ 119	SC 119.2.4.1	P111	L 26	# 333	Cl 120	SC 120.1.1a	P 114	L 30	# 66
de Koos,	Andras	Microchip Tec	hnology		Dudek, Mike)	Marvell		
Comment	Туре Т	Comment Status D		(bucket)	Comment T	/pe T	Comment Status D		PMA introduction (bucket
and 4 scope HOW The s encoc 400G rando There statef The s flexibi to eith encoc imple	00GBASE-R ove for the 802.3dj p EVER, shouldn't tateless encoder, ler, only differing BASE-R links are m causing diverg is absolutely no ul encoder/decoct tateless encoder, lity (removing lon eer 100Gbps/lane ler/decoder! Wit mentation flexibili dRemedy	se of the stateless encoder d 200Gbps lanes. Allowing it roject. common sense prevail, here? decoder was designed such t in their treatment of /E/ blocks always protected by FEC, it ent behaviour of the two enco danger of causing backward- er are still allowed for all PME decoder was added to the sta g timing paths). But any new or 200Gbps/lane PMDs woul on the stateless encoder, the s ty that implemetors cannot ac	hat it is all-but- s. Since the 20 s not as if /E/ b der/decoder typ compatibility iss andard to allow PCS implement d have to implet tandard is offer tually use.	AUIs would be out-of- identical to the stateful 0GBASE-R and locks can occur at pes. sues, becasue the greater implementation ntation that may attach ement the stateful ing more	muxing supports SuggestedR Change PMDs ir any of tr PMD's of could be 400Gb/s Proposed R PROPO Indeed, rates of The refe	PMA. This bit is any of the PM emedy to "The 200GE Table116û1 a te four, or 8 lar ould be change added saying added saying added saying to table 115-2 esponse SED ACCEPT the PMA define 100 Gb/s or les renced paragra e 116	aph should therefore be corre	sed for lower s any of the two. can support 16û2". As a itence and an MDs in Table 1 MAs describe	speed AUIs. Saying it , or four lane 200Gb/s a less preferred apporach additional sentence 16-1 and the two lane of in clause 176."
		119.2.4.1 and 119.2.5.8, resp	bectively.				R1/CR1 from Table 116-3 an correlation (200GBASE copp		
•	Response	Response Status W					R2/CR2 from Table 116-3a a		
As sta		ent itself, adding an option to art of the 802.3dj project is o		ss encoding/decoding	Create r with 1 la	new Table 116- nes)"	correlation (200GBASE copp 3c with title "PHY type and cl		
C/ 119	SC 119.2.5.8	P112	L 27	# 470			R1/CR1 in this table. 3d with title "PHY type and cl	lause correlatio	on (400GBASE conner
Slavick, J	eff	Broadcom			with 2 la	nes)"			
Comment		Comment Status D		(editorial)	In Claus Change	e 120 the referenced			
00	dRemedy ve the word "eithe	٢"			Table 1′ 116–3a	16-4, and the 4 and Table 116			
	Response	Response Status W IN PRINCIPLE.				ent with editoria note: CC 116,			

C/ **120** SC **120.1.1a**

C/ 120F SC 120	P522	L 7	# 67	C/ 169	SC 16	Ð	P118	L 4	# 156	
Dudek, Mike	Marvell			Mi, Guang	can		Huawei Tech	nologies Co., Ltd		
Comment Type T	Comment Status D		Precoding (bucket)	Comment	Туре Т	R	Comment Status D		(k	bucket,
Clause 176 is for	the symbol mux PMA it should no	t be used for Ann	ex 120F				nd clause correlation was		for the columns	s of
SuggestedRemedy						8 PMD a	nd 800GBASE-DR8-2 PM	ID		
Remove the refer	rence to 176.9.1.2			Suggested	-	_				
Proposed Response PROPOSED RE.				DR4, 8	BOOGBAS	E-FR4-50	M in the following rows for 0. remove the unnecessa 800GBASe-DR4-2, 800G	ry M in the following	g rows for	e-
	mended to include 1.6TAUI-16.		to de la theta anno 1	Proposed	Response	1	Response Status W			
	he 1.6TBASE-R 16:16 PMA, which physical interface.	has a 16-lane in	terface that can use	PROP	OSED AC		,			
176.9.1.2 describ	bes the precoding function for all sy	ymbol-muxing PM	IAs, which can also be	01.400	00.40		D 400		<i>"</i>	
used in the afore	mentioned PMA.			C/ 169	SC 16	9	P123	L 5	# 158	
C/ 169 SC 169	<i>P</i> 116	L15	# 155	Mi, Guang		_		nologies Co., Ltd		
Vi, Guangcan	Huawei Tech	nnologies Co., Ltd		Comment		'R ha dalau	Comment Status D		1	bucke
Comment Type TI	R Comment Status D	PI	HY descriptions (bucket)		are missing		constraints on 800GBASE	R BIM-PIMA and 8	OUGBASE-R SI	<i>v</i> I-
same as the prev	vious comment on 800GBASE-CR4	4		Suggested		5				
SuggestedRemedy					•	rows with	TBD if no consensus has	s been built.		
make the descrip	tion consistent			Proposed	• •		Response Status W			
Proposed Response	Response Status W			•	OSED RE					
PROPOSED RE.	JECT. at the referenced "previous comme			800GE the ter otherw	BASE-R 32 m SM-PM vise be am	2:4, 4:32, A is used biguous.	and 4;4, all SM-PMA type to reference any symbol In the referenced text the the notes column backs	multiplexing PMA, multiplex ratio is u	where it would	
It is assumed tha The language use	ed here is consistent with other sin as between the PHYs described in		definitions in 1.4.	referer	ice to Cla			that up.		
It is assumed tha The language use similar difference	es between the PHYs described in		e definitions in 1.4.	Cl 169	SC 16		P127	L 4	# 157	
It is assumed tha The language use similar difference	es between the PHYs described in P116	this table and the	# 154	C/ 169	SC 16		P 127	L 4	# 157	
It is assumed tha The language use similar difference C/ 169 SC 169 Mi, Guangcan	es between the PHYs described in P P116 Huawei Tech	this table and the L17 nnologies Co., Ltd	# 154		SC 16 9 Ican	9	P 127	•		buckei
It is assumed tha The language use similar difference Cl 169 SC 169 Mi, Guangcan Comment Type TI	es between the PHYs described in P P116 Huawei Tech R Comment Status D	this table and the L17 nnologies Co., Ltd Pł	# 154 HY descriptions (bucket)	C/ 169 Mi, Guang Comment	SC 16 Ican <i>Type</i> 1	e P	P 127 Huawei Tech	L 4 Inologies Co., Ltd	(k	bucke
It is assumed tha The language use similar difference Cl 169 SC 169 Mi, Guangcan Comment Type TI In Table 169-1, R R encoding over	R Comment Status D Row of 800GBASE-CR4 was descri four lanes of twinaxial copper cable	this table and the L17 nologies Co., Ltd Pl ribed as 800Gb/s	# 154 HY descriptions (bucket) PHY using 800GBASE-	Cl 169 Mi, Guang Comment In Tab	SC 16 9 Ican <i>Type</i> 1 le 116-6, t	e P	P127 Huawei Tech Comment Status D	L 4 Inologies Co., Ltd	(k	bucke
It is assumed tha The language use similar difference (7 169 SC 169 Ai, Guangcan Comment Type TI In Table 169-1, R R encoding over description in page	R Comment Status D Row of 800GBASE-CR4 was descri four lanes of twinaxial copper cable	this table and the L17 nologies Co., Ltd Pl ribed as 800Gb/s	# 154 HY descriptions (bucket) PHY using 800GBASE-	Cl 169 Mi, Guang Comment In Tab Suggested	SC 169 Ican Type 1 Ie 116-6, t IRemedy	9 "R here shou	P127 Huawei Tech Comment Status D uld be no applicable SP1	L4 Inologies Co., Ltd and SP6 for 113.43	(k 875GBd PMD lar	<i>bucke</i> ne
It is assumed tha The language use similar difference (7) 169 SC 169 (1), Guangcan Comment Type TI In Table 169-1, R R encoding over description in page SuggestedRemedy	P116 P116 Huawei Tech R Comment Status D Row of 800GBASE-CR4 was descri four lanes of twinaxial copper cable ge 49, 1.4.184aa	this table and the L17 nologies Co., Ltd Pl ribed as 800Gb/s	# 154 HY descriptions (bucket) PHY using 800GBASE-	Cl 169 Mi, Guang Comment In Tab Suggested chang	SC 169 Ican Type 1 le 116-6, t <i>IRemedy</i> e the conte	9 TR here shou	P127 Huawei Tech Comment Status D Ild be no applicable SP1	L4 Inologies Co., Ltd and SP6 for 113.43	(k 875GBd PMD lar	<i>bucke</i> ne
It is assumed tha The language use similar difference (7) 169 SC 169 Mi, Guangcan Comment Type TI In Table 169-1, R R encoding over description in page SuggestedRemedy make the language	As between the PHYs described in P116 P116 Huawei Tech R Comment Status D Row of 800GBASE-CR4 was descri four lanes of twinaxial copper cable ge 49, 1.4.184aa ge consistent.	this table and the L17 nologies Co., Ltd Pl ribed as 800Gb/s	# 154 HY descriptions (bucket) PHY using 800GBASE-	Cl 169 Mi, Guang Comment In Tab Suggestec chang Proposed	SC 169 Ican Type 1 Ie 116-6, t IRemedy e the conte Response	9 TR here shou ent of row	P127 Huawei Tech Comment Status D Id be no applicable SP1 SP1 and SP6 in the colu Response Status W	L4 Inologies Co., Ltd and SP6 for 113.43	(k 875GBd PMD lar	<i>bucke</i> ne
It is assumed tha The language use similar difference (1 169 SC 169 Mi, Guangcan Comment Type TI In Table 169-1, R R encoding over description in page SuggestedRemedy	As between the PHYs described in P116 Huawei Tech R Comment Status D Row of 800GBASE-CR4 was descri four lanes of twinaxial copper cable ge 49, 1.4.184aa ge consistent. Response Status W	this table and the L17 nologies Co., Ltd Pl ribed as 800Gb/s	# 154 HY descriptions (bucket) PHY using 800GBASE-	Cl 169 Mi, Guang Comment In Tab Suggestec chang Proposed PROP	SC 16 can Type 1 le 116-6, t IRemedy e the contro Response OSED AC ssumed tha	P R here shou ent of row / CEPT IN	P127 Huawei Tech Comment Status D Ild be no applicable SP1	<i>L</i> 4 Inologies Co., Ltd and SP6 for 113.43 Jumn of 113.4375GE	(k 375GBd PMD lar 3d PMD lane to	bucke ne N/A

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/ed	torial G/general	C/ 169	Page 11 of 137
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/o	pen W/written C/closed Z/withdrawn	SC 169	5/31/2024 10:47:09 AM
SORT ORDER: Clause, Subclause, page, line			

C/ 169	SC 169.1.3	P116	L 42	# 315	C/ 169	SC	169.1.3	P11	6	L 43	# 76
D'Ambrosi	ia, John	Futurewei, U.	S. Subsidiary of	Huawei	Huber, Th	omas		Nokia			
Comment	Type TR	Comment Status D		ER1 PHY (bucket)	Comment	Туре	т	Comment Status	D		ER1 PHY (bucket
encod Physic	ing, but per 802.3 cal Layer devices	d 800GBASE-ER1 are both of 3df-2024, 1.4.184e - "The terr using the Physical Coding S	m 800GBASE-R ublayer (PCS) c	represents a family of lefined in Clause 172	ER1 e	encodin		nan 800GBASE-R end			d refer to 800GBASE- 0] PCS is distinct from
	ing as defined in	" These two PHYs as noted i Clause 186.	in Table 169-3a	they use PCS	Suggestee		•				
Suggested	dRemedy				Chang	ge 8000	GBASE-R	to 800GBASE-ER1 ir	the last t	two rows of the	e table.
Elimin	ate table entries	amily / encoding based on Cla for ER1-20 and ER1 from Ta HY type and clause correlatio	ble 169-3a.	5		, POSED	ACCEPT	Response Status IN PRINCIPLE. ponse to comment #31			
encod Modify	3	ntry for 800GBASE-ER1-20 ir	n Table 169-1 to	reflect new family	C/ 169	SC	169.1.4	P11	7	L12	# 316
name.	•	,		,	D'Ambros	ia, Joh	n	Future	wei, U.S.	Subsidiary of	Huawei
	•	ntry for 800GBASE-ER1 in Ta	able 169-1 to re	lect new family name.	Comment	Type	TR	Comment Status	D	F	MA introduction (bucket
PROP This ta 800GE	BASE-R PHY typ) Gb/s Ethernet PHY types (i. es. The description for 800GI	BASE-ER1 and	800GBASE-ER1-20 is	169-2 servic	, but the	ere is no r aces, as r	s the 800GBASE-R BN real explanation to the noted in Items C&E. 1 .2 Conventions, which	use of the	e sub-layers - cation of these	just the required PMA
	•	e updated in line with the def erent PHY types (not specific		-	Suggestee	dReme	dy				
nomer	nclature table is r	not required for 800GBASE-E 11, 310, and 311 propose cha	R1/ER1-20.				ons of 80 enclature	OGBASE-R BM-PMA	and 800G	BASE-R-SM-	PMA from 176.2 to
		e the definitions as follows: 00 Gb/s PHY using 800GBA		d RMA anapading dual	Proposed	Respo	nse	Response Status	w		
polariz cohere 800GE polariz cohere	zation 16-state qu ent detection with BASE-ER1 800 zation 16-state qu	adrature amplitude modulation reach up to at least 20 km (s Gb/s PHY using 800GBASE- adrature amplitude modulation reach up to at least 40 km (on (DP-16QAM) see Clause 187) -ER1 PCS and F on (DP-16QAM)	modulation, and PMA encoding, dual modulation, and	The te listed The d they s	erms Bl in 176. efinitior hould a	M-PMA ar 2, but the n of BM-P also be int	items in this larger list	are term uld remain	s for use only	1. The same terms are within Clause 176. auses listed above. But

C/ 169 SC 169.1.4

Conditional PMA (bucket)

C/ 169	SC 169.1.4	P117	L12	# 317	
D'Ambrosia	a, John	Futurewei	U.S. Subsidiary of	Huawei	

Comment Type TR Comment Status D

800GBASE-R BM-PMA and 800GBASE-R-SM-PMA are noted as optional in Tables 169-2, 169-3, and Table 169-3a, but that is not quite correct. They are conditional dependent on the PHY type and on whether specific AUIs are implemented or not.

SuggestedRemedy

For 100Gb/s based PHYs the 800GBASE-R BM-PMA is mandatory, all AUIs are optional, and 800GBASE R SM PMA is "C" / conditional if either 800GAUI-4 is implemented. For 200Gb/s based PHYs the 800GBASE-R SM-PMA is mandatory, all AUIs are optional, and 800GBASE R BM PMA is "C" / conditional if either 800GAUI-8 is implemented.

Change entries as described above in Tables 169-2, 169-3 and 169-3a for 800GBASE-R BM-PMA and 800GBASE-R-SM-PMA to C / with notes as stated above.

Modify entry in Table 178-3 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C is implemented. Modify entry in Table 179-3 to 800GBASE-R SM PMA to Conditional. Add note "c" A 800GBASE-R SM PMA must be implemented if a 800GAUI-4 C2C is implemented. Modify entry in Table 180-3 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 181-1 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 181-1 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 182-3 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented. Modify entry in Table 183-1 to 800GBASE-R BM PMA to Conditional. Add note "c" A 800GBASE-R BM PMA must be implemented if a 800GAUI-8 C2C/C2M is implemented.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Some guidance as to when the two PMA types are used would be helpful. However, it is not as simple as proposed in the suggested remedy. Guidance is required for all PMAs used within the various xAUIs. Annex 176B provides all of the necessary guidance. Each of the tables listing physical layer clauses associated with PMD types (e.g., Table 180-3 for 800GBASE-DR4) already include a reference to Annex 176B for the AUIs, but not for the two PMA types. Additional guidance in these tables would be helpful. In the nomenclature tables in Clause 169 it is not necessary to repeat all of these details nor is there any space in these already crowded tables; instead it would be sufficient, efficient, and future-proof to point back to the PMD clauses for guidance.

For each new PMD (Clauses 178, 179, 180 to 183, 185, 186), update the PMD tables in the PMD clause and the associated nomenclature table in Clause 116, 169, and 174, similar to the following for the 800GBASE-DR4 defined in Clause 180.

In Table 180-1, for the 800BASE-R BM-PMA row, change "Optional" to "Conditional" with the following footnote:

"If one or two 800GAUI-n is implemented in a PHY, additional 800GBASE-R BM-PMA or SM-PMA sublayers are required according to the guidelines in Annex 176B.6.1."

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

Attach the same footnote to "Required" in the row for 800GBASE-R SM-PMA. In Table 169-3... In the cell (800GBASE-DR4 row, 800GBASE-R BM-PMA column), change "O" to "C". In footnote "a" add ", C = Conditional (refer to PMD clause for details)." Implement with editorial license.

C/ 169	SC 169.1.4	P1	18	L 22	# 69
Dudek, M	like	Marve	əll		
Comment	Туре Т	Comment Status	D		(bucket)
or 800), 800GBASE-DR8-2			d for 800GBASE-DR4 800GBASE-DR4-2,
Suggeste Delete	dRemedy e the offending "N	1"s			
Proposed	Response	Response Status	w		

PROPOSED ACCEPT.

Cl 169	SC 169.1.4	P118	L 22	# 68
Dudek, M	ike	Marvell		
Comment	Туре Т	Comment Status D		(bucket)

There are errors in Table 169-3. 800GBASE-DR8-PMD is not needed for 800GBASE-DR4 or 800GBASE-FR4-500, 800GBASE-DR8-2 PMD is not needed for 800GBASE-DR4-2, 800GBASE-FR4, or 800GBASE-LR4,

SuggestedRemedy

Delete the offending "M"s

Proposed Response Response Status W

PROPOSED ACCEPT.

C/ 169 SC 169.1.4 Page 13 of 137 5/31/2024 10:47:09 AM

C/ 169	SC 169.1.4	P119	L19	# 320	C/ 169	SC 169.2	2	P119	L 28	# 318
D'Ambrosia,	John	Futurewei, U.S	S. Subsidiary	of Huawei	D'Ambrosi	a, John		Futurewei, U.S	S. Subsidiary	of Huawei
Comment Ty	/pe TR	Comment Status D		Conditional PMA (bucket)	Comment	Type TR		Comment Status D		PMA introduction (bucket)
800GBA		is conditional, pending imple						er lane signaling - 800GBAS was made to 169.2 Summa		
		is conditional, pending imple	mentation of	300GAUI-4 C2C/C2M	Suggested	lRemedy				
PMA Add note of 800G/	entries for 800 e "C= Conditior AUI-8 C2C/C2I	GBASE-LR1 to C for 800GBA nal, 800GBASE-R BM-PMA is M \s conditional, pending imple	conditional, p	ending implementation	The P physic The 80 The 80	al media.)0GBASE-R)0GBASE-R	provio PMA, PMA,	des a medium-independent which supports bit multiple: which supports symbol mu as a general term to represe	xing, is specif Itiplexing , is s	ied in Clause 173. pecified in Clause 176.
Resolve	SED ACCEPT using the resp	Response Status W IN PRINCIPLE. onse to comment #317. d subclause from 169.1.3 to 1	69.1.4]		The co to diffe	, OSED ACC omment app erentiate the	ropriat two ba	Response Status W N PRINCIPLE. ely proposes to add the nev ased on multiplexing type. It	is not necess	ary to point out that they
C/ 169	SC 169.1.4	P119	L 20	# 77				as PMA and in fact this coul rd might be called a PMA.	a de considere	ed incorrect, since any
Huber, Thon	nas	Nokia					0	with editorial license:		
Comment Ty	/pe T	Comment Status D		(bucket)	followi		d seni	tence in 169.2.4 with approp	oriate editorial	instructions to the
		in AUIs - so the C2C and C2I d ER1-20 PHYs, as should th			The 80 The 80	OGBASE-R		that uses bit multiplexing (B that uses symbol multiplexir		
SuggestedR	emedy				176. Impler	nent with ed	torial	license		
		SE-R BM-PMA, 800GAUI-8 C C2C, and 800GAUI-4 C2M are			implei		tona			
Proposed Re	esponse	Response Status W								
PROPO	SED REJECT.									

The table references the optional 800GMII Extender which specifies the optional/condition AUIs and PMAs.

C/ 169 SC 169.2

C/ 169 SC 169.2	P119	L 28	# 319	C/ 169	SC 169.3	2	P122	L 14	# 322	
D'Ambrosia, John	Futurewei, U.	S. Subsidiary of	Huawei	D'Ambrosia, John Futurewei, U.S. Subsidiary o					Huawei	
Comment Type TR	Comment Status D		ER1 PHY (bucket)	Comment	Type TR	Com	ment Status D		(bucket,	
800GBASE-ER1 and 80 This layer is not describ	00GBASE-ER1-20 use the C	lause 186 800G	BASE-ER1 PCS/PMA.	There	is no inter-su	player inter	face for the PMA su	blayer shown in t	he figure	
SuggestedRemedy	bed as part of 109.2.			Suggested	-					
Create 169.2.4c 800GE	BASE-ER1 PCS/PMA				aceholder tex					
	CS performs encoding of da			Proposed	•	'	onse Status W			
	and transfers the encoded d the mapping of transmit and			-	OSED ACCE 169-2b is co		-	PMA definition in	the legend should be	
and PMA via the PMA s	service interface, and the ma	pping and multip	plexing of transmit and	delete	d.				0	
	etween the PMA and PMD vi PCS is specified in Clause xx		ce interface.						clause. We should not not a family, it makes	
Proposed Response	Response Status W			more s	sense to inclu	de the figur	e in the PMD clause	э.	•	
PROPOSED ACCEPT	, IN PRINCIPLE.			Delete 169.3.		b and inste	ad include a referer	ice to Figure 185-	-2 and Figure 185-3 in	
Amend subclause 169.2 instructions and mark-u	2.3 (from 802.3df) to the follo	owing with appro	priate editorial				PMA definition from	n the legend.		
The PCS performs enco	oding of data from the 800GI	MII data into a fo	rm compatible with the	Implen	nent with edit	orial license	2.			
PMA and PMD.	S is specified in Clause 172.			C/ 169	SC 169.3	2	P 122	L 35	# 78	
The 800GBASE-ER1 P	CS is specified in Clause 18	6.		Huber, The			Nokia			
Implement with editoria	I license.			Comment			ment Status D		ER1 PHY (bucket)	
C/ 169 SC 169.2	P119	L 31	# 193		Ũ	needed for	800GBASE-ER1 a	nd 800GBASE-E	R1-20 PHYs.	
Ran, Adee	Cisco			Suggested	-					
Comment Type TR	Comment Status D		ER1 PHY (bucket)				Replace 800GBASE h 800GBASE-ER1 F			
	PCS is defined in clause 18								ces to align with that).	
only refers to the 800G	9.2.3 ("Physical Coding Subla BASE-R PCS.	ayer (PCS) in 8	J2.3df) which currently	Proposed	Response	Resp	onse Status W			
SuggestedRemedy					OSED REJE		E EB1 and 800CB		rovided in Clause 185	
Bring 169.2.3 into the d	Iraft and amend it to include t	the clause 186 F	PCS.				MD types. No other			
Proposed Response	Response Status W			necess	sary to show	a common (diagram in Clause 1	69.		
PROPOSED ACCEPT										
Resolve using the response	onse to comment #319.									

C/ 169 SC 169.3.2

D'Ambrosia, John Futurewei, U.S. Subsidiary of Huawei Nicholl, Gary Cisco Comment Type TR Comment Status D ER1 PHY (bucket) There is no figure describing 800GBASE-ER1/-20 describing inter-sublayer service interaces including 800GBASE-ER1 PCS/PMA There is an issue with subclause 171.3.3 generated by 802.3df. reference of "171.6.2" in the following bullets: SuggestedRemedy Add placeholder text for future text. W Add placeholder text for future text. W Proposed Response Response Status W Add placeholder text for future text. W PROPOSED REJECT. Resolve using the response to comment #78. Micholl, Gary Cisco C/ 169 SC 169.4 P123 L5 # 532 Rechtman, Zvi Nvidia (bucket) The comment Status D (bucket) The comment refers to Table 169û4. Nixia (bucket) An additional signal TXLD is the logical OR of the FEC_degrace SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) (bucket) Na Additional signal TXLD is the logical OR of the FEC_degrace Proposed Response Response Status W Proposed Response Response Status W	# 386
There is no figure describing 800GBASE-ER1/-20 describing inter-sublayer service interaces including 800GBASE-ER1 PCS/PMA There is an issue with subclause 171.3.3 generated by 802.3df. reference of "171.6.2" in the following bullets: SuggestedRemedy Add placeholder text for future text. There is an issue with subclause 171.3.3 generated by 802.3df. reference of "171.6.2" in the following bullets: Proposed Response Response Status W PROPOSED REJECT. Resolve using the response to comment #78. Cl 169 SC 169.4 P123 L5 # 532 Rechtman, Zvi Nvidia (bucket) The comment Type TR Comment Status D (bucket) The comment refers to Table 169û4. The Inner-FEC delay appears to be missing from the table (bucket) ù An additional signal TXRD indicates the state of the rx_rm_deg SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) (bucket) in Additional signal TXRD indicates the state of the rx_rm_deg Proposed Response Response Status W inter state of the rx_rm_deg SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) (bucket) inter state of the rec_degraded variables (see 172.2.6.2.2) as detected by the PHY 800GXS in the transmit direction. Proposed Response Response Status W	
interaces including 800GBASE-ER1 PCS/PMA SuggestedRemedy Add placeholder text for future text. Proposed Response Response Status W PROPOSED REJECT. Resolve using the response to comment #78. C/ 169 SC 169.4 P123 L5 # 532 C/ 169 SC 169 SC 169 SC 160 SC	(bucke
Add placeholder text for future text. Proposed Response Response Status Proposed Response Response Status Proposed Response Response Status PROPOSED REJECT. Resolve using the response to comment #78. C/ 169 SC 169.4 P123 L 5 # 532 Rechtman, Zvi Nvidia SuggestedRemedy Import subclause 171.3.3 and correct the two bullets as follows: The comment refers to Table 169û4. The Inner-FEC delay appears to be missing from the table (bucket) SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) (bucket) Perposed Response Response Status W	There is an incorrect
Proposed Response Response Status W PROPOSED REJECT. Resolve using the response to comment #78. Cl 169 SC 169.4 P123 L5 # 532 Rechtman, Zvi Nvidia Vidia SuggestedRemedy The comment refers to Table 169û4. The Inner-FEC delay appears to be missing from the table (bucket) SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) (bucket) Renormed Personance Status W	egraded variable (see
Resolve using the response to comment #78. Cl 169 SC 169.4 P123 L5 # 532 Rechtman, Zvi Nvidia SuggestedRemedy Import subclause 171.3.3 and correct the two bullets as follows: Comment Type TR Comment Status D (bucket) The comment refers to Table 169û4. (bucket) iu An additional signal TXRD indicates the state of the rx_rm_deg SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) Vanadditional signal TXLD is the logical OR of the FEC_degrade Renormed Response Response Status W	raded_SER variable (see
Rechtman, Zvi Nvidia Import subclause 171.3.3 and correct the two bullets as follows: Comment Type TR Comment Status D (bucket) ù An additional signal TXRD indicates the state of the rx_rm_deg The comment refers to Table 169û4. The Inner-FEC delay appears to be missing from the table 172.2.6.2.2) as detected by the PHY 800GXS in the transmit direction. SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) Proposed Response Response Response Status W	
Comment Type TR Comment Status D (bucket) ù An additional signal TXRD indicates the state of the rx_rm_deg The comment refers to Table 169û4. The Inner-FEC delay appears to be missing from the table 172.2.6.2.2) as detected by the PHY 800GXS in the transmit dire SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) rx_local_degraded variables (see 172.2.6.2.2) as Proposed Response Response Status W	
The comment refers to Table 169û4. The Inner-FEC delay appears to be missing from the table SuggestedRemedy add 800GBASE-R inner FEC (values are TBDs) Proposed Response Response Status W	8:
add 800GBASE-R inner FEC (values are TBDs) Proposed Response Response Response Status W	rection
Proposed Posponso Responso Status W	
PROPOSED ACCEPT IN PRINCIPLE.	
Implement the suggested remedy with editorial license. C/ 171 SC 171.5 P141 L47	# 385
C/ 170 SC 170.1 P135 L12 # 461 Nicholl, Gary Cisco	
Slavick, Jeff Broadcom Comment Type T Comment Status D	Link fault signalir
Comment Type T Comment Status D (bucket) The title of Clause 173 does include BM. There sentence below the editor's not is a repeat of what is caption to releated to ôlink fault signalingö as defined in 81.3.4, which is subclause.	
Suggested Remedy Suggested Remedy	
Remove the BM- from Table 171-1 for the Clause 173 entry and footnote A Delete the sentence below the editor's note.	
Proposed Response Response Status W	
PROPOSED REJECT. PROPOSED ACCEPT.	
The term BM-PMA is used in Table 171-1, because this table includes reference to both BM and SM PMAs, and the convention we agreed on was in such cases to call out both	
PMAs explicitly. The same convention is used in tables 178-1, 179-1, 180-1, 181-1, 182-1	
and 183-1.	
This is explained in 173.1.1 as follows: "When necessary for disambiguation, to differentiate the bit-multiplexing PMA (BM-PMA)	
types defined in this clause from the symbol-multiplexing PMA (SM-PMA) types defined in	
Clause 176, the term BM-PMA is used. Within this clause the term PMA refers specifically to the BM-PMA."	
TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general C/ 171	

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 171 SC 171.5 Page 16 of 137 5/31/2024 10:47:10 AM

C/ 171 SC 171.8	P144	L 23	# 79	C/ 174 S	C 174	P164	L 20	# 159
Huber, Thomas	Nokia			Mi, Guangcan		Huawei Techn	ologies Co., Lto	t t
Comment Type T	Comment Status D		(bucket)	Comment Type	e TR	Comment Status D		(bucke
In tables 171-3 and 13 SuggestedRemedy Indicate the changes Proposed Response PROPOSED REJEC1	Response Status W	langed in the ro	ws that are shown.	medium in to the medi direction th	one directi ium was pi rough cabl -CR8 would -KR8.	otes for 1.6TBASE-KR8 and 1.6 on. No length of the medium wa ovided. While In Table 169-4, a e medium was provided for 800 d be consistent with 800GBASE	as provided, nor definitive of 14 GBASE-CR4. (r any explicit delay due Ins allocated for one One would assume
		000 0 IV	· · · · · · · · · · · · · · · · · · ·		-			
that changed in tables "FEC_symbol_error_c	rd to see, the draft is following 171-3 and 171-5 is that an "_' counter" and "<0:31>" in the sta	" was added bet atus variable col	ween umn. Being added text,			on of delay constraints for the m with that of 800GBASE-CR4 a		
	n keeping with 802.3 editing co draft, including during the final			Proposed Resp	oonse	Response Status W		
Cl 171 SC 171.8 Slavick, Jeff Comment Type T The MDIO mapping ta	P145 Broadcom Comment Status D able is different from Clause 17	L 6	# 462 (withdrawn)	Use the sa For the 800 "Includes a For 800GB	me text us)GBASE-K Illocation o ASE-CR4	T IN PRINCIPLE. ed for 800GBASE-KR8/CR8 in R4 row change the text in the n f 14 ns for one direction through row change the text in the note f 14 ns for one direction through	ote column to: backplane me column to:	edium. See 178.6."
Clause 175 is using.				C/ 174 S	C 174.1.2	P155	L 47	# 180
SuggestedRemedy				Brown, Matt		Alphawave Se	mi	
	hrough 171-5d use the same for	ormat as Clause	e 175	Comment Type	э Т	Comment Status D		List of interface
Proposed Response PROPOSED REJECT This comment was W	Response Status Z	er.		introductior burden to a in each cla	n" clauses amend with use that de	vidths has been traditionally incl since 10 Gb/s Ethernet. It seem each new interface added. The sfines and interface. The origina	ns unecessary a e number of lan I intent was to p	and present and extra es is abundantly clear point out that the
				structural d are not spe		specified interfaces are to be a	is specified whi	le others that are not
				SuggestedRem	nedy			
				••				
				Delete the	paragraph	and lists from page 155 line 47	to page 156 lin	ne 12.
				Delete the Proposed Resp		and lists from page 155 line 47 Response Status W	to page 156 lin	ne 12.

C/ 174 SC 174.1.2

C/ 174A	SC	174A.1	P 53	9	L10	# 205
Ran, Adee			Cisco			
Comment 1	Гуре	TR	Comment Status	D		BER/FLR
The firs			nnex 174 is currently	a mini "ta	ble of conten	ts" of the clause. This
relation	ship b s well	etween bit as the pur		in the pro	oject's objecti	should provide the ve and the frame loss hal interfaces within the
Suggestedl	Reme	dy				
A prese	entatio	on with pro	posed content is plan	ned.		
meeting https:// Implem Update in slide Update approp	g. www.id ent as d Ann s 11, 7 claus riately s note	eee802.org s follows w ex 174A a 12, and 13 ses/annexe	g/3/dj/public/24_05/rai ith editorial license. s proposed on slides s 120F, 120G, 171, 1	n_3dj_04_ 8 to 13 of 78, 179, 1	_2405.pdf ran_3dj_04_2	2405 excluding option A 180 to 183, 185, 187 # 206
	30	174A.Z		9	L19	# 206
Ran, Adee	Tuno	TR	Cisco Comment Status	D		חבח/בו ח
Comment 7	,,		io for RS to RS link" is	-		BER/FLR
should etc.) sh <i>Suggestedl</i>	be ba iould p Re <i>m</i> eo	sed on the preferably I <i>dy</i>	s several performance sub-link in question, be in the subclause te	while the xt.		
			posed content is plan			
Proposed F	,			w		

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #205.

C/ 174A	SC 174A.3	P 539	L 25	# 190
Ran, Adee		Cisco		
Comment Ty	pe TR	Comment Status D		BER/FLR

174A.3 "Frame loss ratio for a Physical Layer implementation" is empty.

I assume a "Physical Layer implementation" means the path between the RS and the MDI. It is unclear how frame loss ratio can be defined for this path, because the two interfaces are not equivalent; frames are defined only at the RS, and cannot be identified, checked for errors, or counted on the MDI. Similarly, the signals on the MDI cannot be compared to the data stream on the RS, so no other "error metric" can be defined.

This is in contrast to "RS to RS link" and other subclauses, in which such checking and counting is possible.

This subclause should be deleted.								
Suggested Delete	Remedy 174A.3.							
	, OSED ACCEPT	Response Status W IN PRINCIPLE. onse to comment #205.						
C/ 174A	SC 174A.4	P 539	L 30	# 191				
Ran, Adee		Cisco						
Comment	Type TR	Comment Status D		BER/FLR				
1710	"Eromo loco rot	ia far an xMIL Extendar" ia (omotiv					

174A.4 "Frame loss ratio for an xMII Extender" is empty.

Since this annex defines several performance metrics, the titles of specific subclauses should be based on the sub-link in question, while the specific requirement (FLR, BER, etc.) should preferably be in the subclause text.

SuggestedRemedy

A presentation with proposed content is planned.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #205.

C/ 174A SC 174A.4

C/ 174A	SC 17	4A.5	P 539	L 36	# 192	C/ 175	SC	175.2.1	P 172	L 26	# 376		
Ran, Adee			Cisco			Ofelt, Dav	id		Juniper Netwo	orks			
Comment T	уре -	ſR	Comment Status D		BER/FLR	Comment	Туре	т	Comment Status D		(bucket)		
			for PHY" is empty.						wo codewords from flow 0 ar m different FEC encoders.	nd two from flow	v 1, but it isn't clear that		
should b	be based	d on the s	several performance metric sub-link in question, while the e in the subclause text.				EC en	coding, a F	EC codeword from each of t the two encoders in flow 1 ar				
SuggestedF	Remedy							S lanes.					
A prese	entation v	vith prop	osed content is planned.			Proposed	Respor	ise	Response Status W				
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.							PROPOSED ACCEPT IN PRINCIPLE.						
		-	nse to comment #205.			Impler	nent the	e suggeste	ed remedy with editorial licens	se.			
C/ 175	SC 17	5	P169	L1	# 332	C/ 175	SC	175.2.4.2	P173	L 26	# 481		
de Koos, Ar	ndras		Microchip Tec	hnology		Slavick, Je	əff		Broadcom				
Comment T	уре -	г	Comment Status D		timesync (bucket)	Comment	Туре	т	Comment Status D		timesync (bucket)		
Has any thought been given to how to calculate the latency through the 1.6TBASE-R PCS, i.e. the path data delay values for the purposes of TimeSync? I do not see anything within the 1.6TBASE-R PCS that would prevent proper calculation of the path data delay values. Clause 90.7.1 is instructive here, explaining that the path data delays should be "reported as if the DDMP is at the start of the FEC codeword". However, the existing language in 90.7.1 is awkward for PCSs with more than one FEC engine like the 1.6TBASE-R PCS, which has four FEC codewords in parallel.							A note that modifying the data stream could affect TimeSync would be useful. SuggestedRemedy Add the following note: "NOTE Insertion or removal of characters may affect protocols like times synchronizatio (see 90.4.1.2)" Proposed Response Response Status W						
SuggestedF	Remedy		·			It is no	ot helpfu		le notes related to time syncl				
Clause in parall	90.7.1 c	ould be c assume	Clause 175. leaned up to account for wh that is out-of-scope for the 8			sublayer clauses; this was not done in previous clauses/projects. Rather it would be preferable to add the necessary text into Clause 90/Annex 90A. A consensus presentation with a complete proposal is encouraged.							
Proposed R	Response	,	Response Status W										
PROPO			loes not propose an actiona										

C/ 175 SC 175.2.4.2 Page 19 of 137 5/31/2024 10:47:10 AM

CI 175 SC 175.2.4.4 P173 L 41 # 463	CI 175 SC 175.2.4.5 P174 L3 # 377				
Slavick, Jeff Broadcom	Ofelt, David Juniper Networks				
Comment Type T Comment Status D (bucket)	Comment Type T Comment Status D Scrambler seeds (buck				
The last sentence is giving the tranccoded blocks sent to each flow a name. So it's not really make a flow of blocks. If anything it's making a series or stream of blocks.	Editor's Note askes if we should require different reset values for the scramblers. SuggestedRemedy				
SuggestedRemedy	Yes, we should!				
Change the last sentence to read: "The transcoded blocks sent to flow 0 are referred to as tx_xcoded_f0<256:0> and the ones sent to flow 1 as tx_xcoded_f1<256:0>."	Proposed Response Response Status W				
Proposed Response Response Status W	PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #454.				
PROPOSED ACCEPT IN PRINCIPLE.					
Implement the following with editorial license.	Cl 175 SC 175.2.4.5 P174 L3 # 454				
	Opsasnick, Eugene Broadcom				
Change: "This creates two flows of transcoded blocks, tx_xcoded_f0<256:0> to flow 0, and	Comment Type T Comment Status D Scrambler seeds (buck The Editor's note at the end of subclause 175.2.4.5 "Scrambler" states that there are no				
"This creates two streams of transcoded blocks, tx_xcoded_f0<256:0> to flow 0, and tx_xcoded_f1<256:0> to flow 1." Cl 175 SC 175.2.4.5 P173 L 50 # 331 de Koos, Andras Microchip Technology	flow. The note also mentions that the corresponding sub-clause in 802.3df for 800GE PCS states that the two flows would have identical outputs if the seeds are identical and the data input is identical (such as after reset). The 1.6TE PCS does not have two separate sets of PCSLs like 800GE PCS, but the PCSL formation could have back-to-back repeating RS-symbol values if identical seeds are used. Suggest to require different seeds after reset in the scramblers of each flow as written in the paragraph above the editor's note.				
Comment Type T Comment Status D Scrambler seeds (bucket)	SuggestedRemedy				
Different scrambler seeds for the two flows are NOT strictly necessary for the 1.6TBASE-R PCS. The output PCSLs are never bit muxed, so having identical outputs from FEC A and FEC C, for example, should never have any adverse effect on "clock content" of the	Remove the editor's note at the top of page 174, and leave the wording in 175.2.4.5 as-is with the requirement that the two scrambers are initialized with different seeds. Proposed Response Response Status W				
SerDes output. It doesn't hurt to have the scramblers be seeded differently, however.	PROPOSED ACCEPT IN PRINCIPLE.				
	Comment #331 notes that the 1.6T PCS lanes are never bit-muxed so different seeds may				
SuggestedRemedy Consider changing the last sentence on page 173 from: When reset is asserted, the two scramblers shall be initialized to a value other than zero and different from each other. To: When reset is asserted, the two scramblers shall be initialized to values other than zero.	not be necessary. While the effect of identical scrambler seeds is worse with bit-muxing than symbol-muxing, there may still be some determental effects with symbol muxing. If there are identical seeds and identical data, then the FEC-A and FEC-B codewords would be identical to the FEC-C and FEC-D codewords, respectively. With symbol muxing, the resulting data on a output lane would be symbols {A, B, C, D} where A=C and B=D. In general, it is safer to require different seeds to avoid any potential side-affect. As the comment #331 points out, it doesn't hurt to have the scramblers seeded differently.				
(snuck in an editorial correction there, too!)	Delete the editor's note near top of page 174.				
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.					

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 175 SC 175.2.4.5 Page 20 of 137 5/31/2024 10:47:10 AM

C/ 175 SC 175.2.4.6	P174	L 42	# 464	C/ 175	SC	175.2.4.6	P 176	L 5	# 465	
Slavick, Jeff	Broadcom			Slavick, Je	eff		Broadcom			
Comment Type T	Comment Status D		(bucket)	Comment	Туре	т	Comment Status D		(bucket)	
tx_am_sf doesn't allow bu	t provides a way to commu	inicate the man	datory degrade status.				_mapped_f1 aren't solely ba			
SuggestedRemedy Change "allows the local F	CS to communicate the s	tatus of the EEC	degraded feature to	Suggested	Reme	dy				
the remote PCS" to "comr PCS".					/ariable		oped_f0 and am_mapped_f1			
Proposed Response	Response Status W			interlea To:	aving tl	he group o	f 16 alignment markers, am	_x, using the fol	lowing procedureö	
PROPOSED REJECT. The draft is correct as writ	ten, and the proposed cha	nge does not im	prove clarity.	ôThe a am_m	apped_	_f1 as follo	group is mapped into variab ws. First a 10-bit interleavin			
C/ 175 SC 175.2.4.6	P175	L 22	# 453			0	following procedure ô			
Opsasnick, Eugene	Broadcom			Proposed	•		Response Status W			
Comment Type T	Comment Status D		(bucket)	PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license.						
Sub-clause 172.2.4.6 has marker values. CL 175 sh 1.6TBASE-R alignment m	ould add a similar note witl			<i>Cl</i> 175 Slavick, Je		175.2.4.6	P 176 Broadcom	L 25	# 466	
SuggestedRemedy				Comment	Туре	Т	Comment Status D		(bucket)	
Add text near line 22: "NO shown in Table 175û1 is a https://standards.ieee.org/	vailable at	ne alignment ma	arker patterns, as	am_mapped_f0 and am_mapped_f1 contain data that is sent into flow 0/1 and through codewords AB and CD.						
https://standalds.ieee.org/	uuwiiiuaus/602.3/.			SuggestedRemedy Change: ôNote that am_mapped_f0 contains the 10-bit symbols of FEC codewords A and B, and am_mapped_f1 contains the 10-bit symbols of FEC codewords C and D. ô To: ôNote that am_mapped_f0 is sent to flow 0 which produces FEC codewords A and B, and am_mapped_f1 is sent to flow 1 which produces FEC codewords C and D.ö						
A presentation will be sub AM values.	mited with a corresponding	text file contair	ing the 1.6TBASE-R							
	Response Status W									
PROPOSED ACCEPT IN Add note as suggested wi	th additional reference to the									
(https://www.ieee802.org/3 https://www.ieee802.org/3 Implement with editorial lig	/dj/public/24_05/opsasnick			Proposed PROP	•		Response Status W			
				Implement the suggested remedy with editorial license.						

C/ 175 SC 175.2.4.6

W 175 SC 175.2.4.6.2 P177	L 6	# 467	C/ 175 SC 175.2	.5.3	P182	L 9	# 469	
Slavick, Jeff Broadcom			Slavick, Jeff		Broadcom			
Comment Type T Comment Status D		(bucket)	Comment Type T	Com	ment Status D		(bucket)	
Add a intro to what tx_scrambled is.			The Note about tra	cking statisti	ics across all 4 deco	ders is missing f	from the bin counter.	
SuggestedRemedy			SuggestedRemedy					
Change: "The variables tx_scrambled_am_f0<10279:0> and					FEC_codeword_error odewords with errors		codewords."	
tx_scrambled_am_f1<10279:0> are constructed in on To:	e of two ways.	n	Proposed Response	Respo	onse Status W			
"In each flow a 10280-bit block of data is formed with message data, tx_scrambled_am_f0<10279:0> in flo	w 0 and		PROPOSED ACCE Implement the sug		ICIPLE. dy with editorial licer	ise.		
tx_scrambled_am_f1<10279:0> in flow 1 and they are roposed Response Response Status W	constructed ir	n one of two ways. "	C/ 175A SC 175A		P 539	L 8	# 455	
PROPOSED ACCEPT IN PRINCIPLE.			Opsasnick, Eugene		Broadcom			
Implement the suggested remedy with editorial license	Э.		Comment Type T	Com	ment Status D		(bucket)	
/ 175 SC 175.2.5.3 P181	L 40	# 468	Annex 175A contains tabular data for an example created by the 1.6TBASE-R PCS TX functions, including the scrambler output, RS-FEC codeword generation, and PCS lane interleaving. The editor's note on page 539 has a placeholder for a link to a text file that has the machine readable text data. That data file needs to be created.					
lavick, Jeff Broadcom		FFO						
Domment Type T Comment Status D	alwaya baan y	FEC error counters	SuggestedRemedy					
The counters for correctd, uncorrected and error have cw counter and bin counters have been optional. So			A presentation is planned to submit a data file which corresponds to the Annex 176A example and can be referenced in the editor's note					
uggestedRemedy			Proposed Response		onse Status W			
Change: "The following counters should be implemented to aid the link quality. " To: "The PCS provides the following counters that track F		-	PROPOSED ACCEPT IN PRINCIPLE. Update the Editor's note with link to the text file (https://www.ieee802.org/3/dj/public/24_05/opsasnick_3dj_03_2405.txt) as presented in https://www.ieee802.org/3/dj/public/24_05/opsasnick_3dj_01_2405.pdf at the May interim.					
roposed Response Response Status W			Implement with edi	torial license	,	_ ,	. ,	
PROPOSED ACCEPT IN PRINCIPLE. There is a list of 5 FEC counters in 175.2.5.3. The first three are definitely required (as they were als and 172) which makes the "should" wording incorrect. (FEC_corrected_cw_counter, FEC_uncorrected_cw_counter, FEC_symbol_error_counter_i) The 4th and 5th counters (FEC_cw_counter and FEC, "optional" in 161.6.21, 172.3.5 and 172.3.6. The importance of these counters is well recognized in mandatory for the 1.6TBASE-R PCS Make all 5 counters required for the 1.6TBASE-R PCS Implement with editorial license. Pending CRG discussion.	ounter, and _codeword_en	ror_bin_i) are explictly						

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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	C 176	P195	L1	# 597	C/ 176	SC	176	P 242	L10	# 21		
de Koos, Andra	as	Microchip Te	chnology		Liu, Cathy			Broadcom				
Comment Type	e T	Comment Status D		timesync (bucket)	Comment	Туре	т	Comment Status D		Prec	oding	
 Has any thought been put into how to calculate the path data delay values (MII-MDI latencies for timestamping) for the SM-PMAs? For bit-mux PMAs, it is very simple - i.e. it is all implementation delay, since the intrinsic delay from bit muxing/demultiplexing is negligible. But at first glance, determining the latency across the Clause 176 PMA looks like more of a challenge. a. I don't believe that the intrinsic (i.e. non-implementation) delay is deterministic, due to the partial deskew. b. But apart from the partial deskew, the latency across the SM-PMA should be deterministic using the principles in Annex 90A.7 (max latency value used for Tx path data delay, min latency value used for Rx path data delay). c. Traditionally, how to calculate the delays through the PHY layers has been an implementation concern, but this is because the calculation was straightforward at lower rates. At 200Gbps lanes, the standard does not have the luxury of being able to ignore 						I add C: <i>IRemed</i> 2M link out and	2M since by into the output la or xBASE	ing is mentioned to CR, KR ar C2M LT session specifies pre- statement: ôThe precoding sp nes of a PMA that are connec E-KRn PMD, or are part of an o <i>Response Status</i> W	ecoding as one o pecifications in t ted to the servic	of the options. his subclause apply e interface of an		
						round a al prese	and propo	IN PRINCIPLE. osed changes are provided in t or CRG review. 406	he the "Precodi	ng" slides in followi	ng	
		licated or ambiguous, and on he system Time Synchroniz			C/ 176	SC	176.2	P196	L 46	# 471		
SuggestedRemedy						eff		Broadcom				
SuggestedRemedy Consider a note in Clause 176 (or next to the PMA path data delay MDIO registers - 45.2.1.176, 45.2.1.177) that the path data delay values for the SM-PMA should be calculated via the method in Annex 90A.7. I don't think it is necessary, but if a more detailed explanation is deemed useful, then a subclause could be added to Clause 90.7 spelling out explicitly how the path data delay values should be calculated for the SM-PMA. Proposed Response Response Status W PROPOSED REJECT. V				Comment Type E Comment Status D (editorial Is respectively necessary here? X is just a list of different rates. SuggestedRemedy (editorial SuggestedRemedy remoe the ", repsectively," Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion. (editorial)								
sublayer cla	auses; this v	te notes related to time syn as not done in previous clar	uses/projects. Ra	ather it would be	C/ 176	SC	176.2	P196	L 53	# 472		
preferable to add the necessary text into Clause 90/Annex 90A. A consensus presentation with a complete proposal is encouraged.				onsensus presentation		<i>Type</i> bectively	•	Broadcom <i>Comment Status</i> D ary here? X is just a list of diffe	erent rates.	(edi	itorial)	
					Suggested remoe		<i>r</i> epsective	ely"				
					Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.							

C/ 176 SC 176.2

C/ 176	SC 176.2	P197	L 3	# 473
Slavick, J	eff	Broadcom		
Comment	Type E	Comment Status D		(editorial)
Is res	pectively necess	ary here? X is just a list of diff	erent rates.	
Suggestee remoe	dRemedy e the ", repsective	ely"		
PROF	Response POSED ACCEPT ment with editoria	al license and discretion.	L1	# 533
			<i>L</i> I	# 333
Rechtmar	η, Ζνι	Nvidia		
Comment	Type TR	Comment Status D		DelayOddPCSLs (bucket)
The fu by 2 F can be The in multip	e misleading, as ntention is to dela	y odd PCSLs ds" on Tx path and "Delay ev they could be interpreted as a y the odd (Tx) and even (Rx) lex symbols from different 2 F	a delay by 1 PCSLs by 1	0,880 symbols. 136 symbols in order to get

SuggestedRemedy

Modify the description in the Tx path box from "Delay odd PCSLs by 2 RS-FEC codewords" to "Delay odd PCSLs by 136 symbols" and in the Rx path box from "Delay even PCSLs by 2 RS-FEC codewords" to "Delay even PCSLs by 136 symbols"

Proposed Response Response Status W

PROPOSED REJECT.

The function in Fig 176-2 uses the words "2 RS-FEC codewords" as opposed to "136 RS-FEC symbols" because the function aims to align the 2 codewords on even lanes with 2 different codewords on odd lanes by delaying odd lanes by 2 codewords. This enables symbol multiplexing across 4 codewords. Same applies to Fig 176-9, 176-11 and 176-13. While it is not inaccurate to call it a "136 symbol delay", an advantage of using "2 RS-FEC codewords" as opposed to "136 symbols" is that the function name is equally applicable to both 200GE and 400GE SM-PMAs. Moreover, the first line of subclause 176.5.1.3.4 clearly specifies the delay as being 136 RS-FEC symbols, and the subsequent line shows this mathematically as "2 codewords x 544 symbols per codeword / 8 PCS lanes = 136 symbols." Similarly, subclause 176.6.1.2.4 (400GE 16:2 PMA) specifies the delay to be 68 symbols. Hence, the delay value is clearly specified and there is no room for misinterpreration.

The comment proposes an alternate description which is technically correct but does not improve the accuracy or readability of the standard.

C/ 176	SC	176.5.1.1	P 200	L11	# 367
He, Xiang			Huawei		
Comment	Туре	TR	Comment Status D		Deske
https:/	/www.ie				07.pdf, it is required to
Suggested	Remed	dy			
Chang	je "20b	deskew" to	deskew to codeword	boundaries" or	simply "deskew"
Proposed	Respor	nse	Response Status W		
			N PRINCIPLE. nse to comment # 368		
C/ 176	SC	176.5.1.1	P 200	L 35	# 479
Slavick, J	əff		Broadco	m	
Comment	Туре	Е	Comment Status D		(editoria
test pa	attern g	enerate is c	overlapping with the IS	_SIGNAL_requs	t line in Figure 176-2
Suggested	Remed	dy			
			te" to not overlap with),13,14,15,19,20,24,25		NAL.request/indication line
Proposed	Respor	nse	Response Status W		
PROF	OSED	ACCEPT I	N PRINCIPLE.		
Implei	nent wi	th editorial	license and discretion.		
C/ 176	SC	176.5.1.1	P 200	L35	# 478
Slavick, J	əff		Broadco	m	
Comment	Туре	Е	Comment Status D		(editoria
test pa	attern g	enerate is c	overlapping with the IS	_SIGNAL_requs	t line in Figure 176-2
Suggested	Remed	dy			
			te" to not overlap with),13,14,15,19,20,24,25		NAL.request line
Proposed	Respor	nse	Response Status W		
	•		N PRINCIPI F.		

PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 176 SC 176.5.1.1 Page 24 of 137 5/31/2024 10:47:10 AM

C/ 176	SC 176.5.1.3.1	P 201	L24	# 598	C/ 176	SC 176.5.1.3	8.1 P2	201 L 24	# 596
de Koos, /	Andras	Microchip Tee	chnology		de Koos,	Andras	Micro	ochip Technology	
Comment	Type T Comr	ment Status D		Deskew	Comment	Туре Т	Comment Status	D	Deskew
accura explar Towar skew i In the then th examp Adding be a w the PH This is worthw Suggested Consid in clau Proposed PROP	ds the MDI, the transmit S ntroduced by the Tx PCS Rx direction, the same pro- te remaining skew, in seri- ole) and from the medium, g an option for the SM-PM vay to allow implementation fy layers. a lot to digest - I can pre- vhile. <i>IRemedy</i> der requiring (or allowing a uses (176.5.1.3.1, 176.6.1) <i>Response</i> OSED ACCEPT IN PRIM-	ation impossible. Se SM-PMA function sh layer and AUI links. oblem exists. If the es with skew from o will have a non-det lA to do a full deske ins to avoid the Time sent the reasoning h as an option) a full d .2.1, 176.7.1.2.1, 17 inse Status W CIPLE.	ee Annex 90A.6 ould thus have t (i.e. do a full de SM-PMA does r ther layers in the erministic sum. w (not just a 20/ eSync impairme here if leadership	for a more detailed he option to undo any skew). not do a full deskew, e PHY (from AUIs, for 40-bit deskew) would nt due to skew between o thinks it would be	176 P 10-bit not ac Witho FEC 0 PCSL (Claus FEC 0 appea Before PCSL PCSL 20-bit	MA, if I understa symbols must co hieved. ut skew, everythi CW delay. But w s, after the 10bit se 176.5.1.3.4), t codeword appear ur within 2 symbo e skew (showing 0: B2 A2 B1 1: A2 B2 A1 skew : PCSL1 a ly started A2/B2) 0: B2 A2 B1	nd correctly, is that a ome from 4 different ith n*20b of skew, wi delay on odd PCSLs here will still be a per at the same time. S Is after the output mo boundary between F A1 B1 A1 B1 A1 B1 rrives before PCSL0	the output lane(s), ea RS-FEC codewords. In the symbol delay is in the here some odd PCSLs s, (Clause 176.5.1.3.4) riod of overlap where sy symbols from the same ux.	and the 2 CW delay ymbols from the same RS_FEC CW can thus
Resolv	ve using the response to c	comment #594.						4)-	
C/ 176	SC 176.5.1.3.1	P 201	L 24	# 594	PCSL		e (Clause 176.5.1.3. A1 B1 A1	4):	
de Koos, <i>I</i>	Andras	Microchip Tee	chnology		PCSL		1 B1 A1 B1		
instea A full o untima Keepii impler	Type T Comr onally, is there anything p d of only to 20/40-bit bour deskew at the SM-PMA we ately undone at the Rx PC og the PMA as light as por nentation chooses to do s I be allowed for both Rx at	idaries? ould NOT change er S. ssible (less buffering o, performing a full o	nd-to-end latenc g required) is Ok	y, since the skew is all	PCSL PCSL -> B1: with m	0: B2 Å2 B1 1: A1 B1 A s line up on PCS nore than 20 bits	0 B0 A0 B0 L 0 and 1 for one 8:1	two-symbol mux cycle e more "codeword over	
Suggested									or in the AUI/PMD loss
00	e following note the 20/40) bit deskew clauses	s (176.5.1.3.1. 1	76.6.1.2.1, 176.7.1.2.1.	budge	•	-	•	
176.8.	1.2.1):				Suggestee	dRemedy			
	eskew (to AM boudaries) on the function.	of PCSLs may option	anlly be perform	ed by the SM-PMA		der requiring a fu .1.2.1, 176.7.1.2.		the 20/40 bit deskew in	n clauses (176.5.1.3.1,
Proposed	Response Respo	nse Status W			Proposed	Response	Response Status	w	
Remo Remo	OSED ACCEPT IN PRIM ve the text "(up to 19 bits ve the text "(up to 39 bits nent with editorial license.	on any given lane)" on any given lane)"			The p to cod	eword boundarie	e to comments # 368	cern outlined in this co	eskew function to deskew mment for the
COMMEN		A/accepted R/reje		l T/technical E/editorial G/g NSE STATUS: O/open W/wi		d Z/withdrawn		C/ 176 SC 176.5.1.3.1	Page 25 of 137 5/31/2024 10:47:10

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

176	Page 25 of 137
176.5.1.3.1	5/31/2024 10:47:10 AM

suffic	ient alignment to e	nd 1.6TBASE-R PMAs, the nsure 4 Codeword interleavi	ng on output la		C/ 176	SC	176.5.1.3	1	P 201	L 32	# 368
		the deskew function are rec nse to comment #368	luired.		He, Xiang	I			Huawei		
					Comment		TR		t Status D		Deske
C/ 176 Rechtma	SC 176.5.1.3 . ⁻ n, Zvi	l P 201 Nvidia	L 28	# 534	https:	//www.ie		g/3/dj/public	to Motion #10 in 23_07/motions_		df, it is required to
ommen	t Type T	Comment Status D		(bucket)	Suggeste	dRomor					
		e text to lock process in Figu		ever, there are	•••		•	d third parad	araph in 176.5.1.	3.1 and reuse 11	9.2.5.1.
It can and t	h be beneficial to re he list of exception	9-12 as outlined in 176.5.1.6 fer to 176.5.1.6 which incluc s list		ence to Figure 119-12	Proposed PROF	Respor POSED	ise ACCEPT	Response	Status W		
Add a	edRemedy a reference to 176. d Response	5.1.6 instead of Figure 119- [.] <i>Response Status</i> W	12		slides This v	along vas not	with desk implemen	ew (alignme ted in Draft	nt) to codeword I 1.0.		pared to the baseline 00G/lane input lanes".
PRO	POSED ACCEPT I	N PRINCIPLE.			C/ 176		176.5.1.3		P202	L 45	# 535
Add r	note in parenthesis	"(see 176.5.1.6.4)" after Fig	119-12.		Rechtmar			•	Nvidia	- 10	
Imple	ement with editorial	license			Comment	Туре	т	Commen	t Status D		(buck
C/ 176 Slavick, J	SC 176.5.1.3.		L 29	# 475	The d abser	iagram nce of sł	represent kew betwe	en the origir	kew case betwee	en PCS lane, for ne "first" symbol /	instance in the A might be created by
Commen	51	Comment Status D		(bucket)	Suggeste						
There	e is more details to	the AM lock function add a	reference		Option		,				
Suggeste	edRemedy						ne first A s	ymbol of the	e odd PCS lanes	to be A'.	
add a	a "(see 175.5.1.6.4)	after Table 119-1			Option Split t		ing into tv	o: one for 2	00GBASE-R and	d another for 400	GBASE-R. Then, add
PRO	<i>l Response</i> POSED ACCEPT I Ive using the respo	Response Status W N PRINCIPLE. nse to comment #534.				ould ma		, B symbols er to unders		is and the roles o	of the symbols in each
	0 1				Proposed	Respor	ise	Response	Status W		
[Edito	or's note: Changed	clause, subclause from 175	o, 175.5.1.3.1 to	176, 176.5.1.3.1]	Updat state could the sa	te the te that the be from ame or c	xt referen RS-FEC the same	symbols A a or different EC-B codew	-4 (in 176.5.1.3.3 nd B belong to F FEC-A codewor	EC-A and FEC-E	(in 176.5.1.3.2) to 3. The "A" symbols ymbols could be from

C/ 176 SC 176.5.1.3.3 Page 26 of 137 5/31/2024 10:47:10 AM

C/ 176	SC 176.5.1.3	.4	P 202	L 48	# 599	C/ 176	SC 1	76.5.1.3.4	ŀ	P 202	L 51	# 537
de Koos,			Microchip Te			Rechtman				Nvidia		
Comment	Туре Т	Comme	ent Status D		(bucket)	Comment	Туре	TR	Comment S	tatus D	Ľ	elayOddPCSLs (bucket
PMAs For se betwe to use of 200	s, as compared to etups with an MII- een the DTE_XS a e 100Gbps links fo 0Gbps links!	the bit-mu Extender in and PHY_> or the DTE	ux PMAs t is actually worse KS. If latency is a XS <-> PHY_XS	, since the penalt concern, it actua AUI interface, ne	in the 8:1 and 16:2 SM- ry would also exist lly becomes preferable egating the advantages	lanes can be 136 sy	(2 codew e misinte mbol de rords dela	vords Î 544 erpreted: elay x 4 od lay)	4 symbols per	codeword / 8	of 2 RS-FEC coc PCS lanes = 13 s delay in total (r	• •
176.6	.1.2.4.	the oli an	IU TO.2 PIVIAS SHO	uid be noted in C	lauses 176.5.1.3.4 and						S-FEC codewor PCS lanes = 13	ds to the odd PCS 6 symbols)."
Add ti Note cause Proposed PROF	Note that the delay adde causes an end-to-end lat cosed Response PROPOSED REJECT. The standard is not expe case the latency of SM-F		te to the 2xFEC CW delay sub-clauses (176.5.1.3.4 and 176.6.1.2.4): added to the odd PCSLs (and to the even PCSLs at the far-end) id latency increase of 51.4ns as compared to BM-PMAs. <i>Response Status</i> W CT. expected to note pros and cons of one PMA versus another (in this				onsecutivol multiple dding the	ve RSFEC exer." e 136 sym	symbols from	four differen dd numbered	t codewords at t lanes enables th	bles the multiplexing of he output of the 8:1 he multiplexing of four utput of the 8:1 symbol
				s of one PIMA ver	sus another (in this	Proposed	Respons	se	Response St	atus W		
				prove the clarity c	or accuracy of the draft.	The fir 136 R symbo that "2	st line of S-FEC s d delay) codewo	symbols, a is equivale ords × 544	nd the subseq ent to adding a symbols per o	uent line des a delay of 2 co codeword / 8	cribes mathemat	anes are delayed by tically that this (136 odd lanes by showing symbols". There is ted upfront.
						C/ 176	SC 1	76.5.1.3.4	Ļ	P 203	L 4	# 293
						Galan, Jos	se Vicent	ite		Maxlinear Inc		
						<i>Comment</i> For Fig		T 3û5 , it has	Comment S to be explained		3Æ shall be.	Figures (bucket
						<i>Suggested</i> Add ai are de	n explana		Æ/BÆ, e. g. '	'AÆ/BÆ'are 1	he symbols from	n previous 2 CWs that
						Proposed	•		Response St	atus W		

PROPOSED ACCEPT IN PRINCIPLE. Update the text referencing Fig 176-5 (in 176.5.1.3.4) to state that RS-FEC symbols A and A' belong to different codewords from FEC-A, and B and B' belong to different codewords from FEC-B.

Implement with editorial license.

C/ 176 SC 176.5.1.3.4

C/ 176 SC 176.5.1.3.4 P203 L45 # 530	6	C/ 176	SC 176.5.1.	3.5	P 204	L1	# 291
Rechtman, Zvi Nvidia		Galan, Jos	se Vicente		Maxlinear Inc		
Comment Type T Comment Status D Figur	res (bucket)	Comment	Туре Т	Comment	Status D		Figures (bucket
The comment refers to Figure 176-5 The diagram represents a specific skew case between PCS lanes. For instance in absence of skew between the PCS lanes in the PMA:IS UNITDATA 0:7.request		transm	nission order of			the opposite dir	ection than the actual
the first symbol of A' of the odd PCS lane should be marked as A" because of the additional one symbol delay prior to the 136 symbols delay		Suggested Chang		of the arrow to	follow the actua	al transmission of	rder.
SuggestedRemedy		Proposed I	Response	Response	Status W		
Option1: Modify only the first A' symbol of the odd PCS lanes to be A''.		-	0	-		on the output la	ne, with editorial
Option2: Split the drawing into two: one for 200GBASE-R and another for 400GBASE-R. T	hen add	C/ 176	SC 176.5.1.	4.2	P 204	L 42	# 595
index numbers to the A, B and A', B' symbols.		de Koos, A	Andras		Microchip Teo	chnoloav	
This could make it easier to understand the drawings and the roles of the symbol context.	s in each	Comment		Comment	•	5 55	Deskew (bucket
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 293 Cl 176 SC 176.5.1.3.5 P 203 L 25 # 470 Slavick, Jeff Broadcom Comment Type E Comment Status D	6 (editorial)	Is there anything preventing an implementation from performing a full deskew at the PMA? It is not technically required, but does not cause any adverse functional effect A full deskew at the Rx SM-PMA would NOT change end-to-end latency, since the s all untimately undone at the Rx PCS. A deskew upstream would simply offload the from the Rx PCS. Implementations with a SM-PMA attached to an RxPCS will undoubtedly perform th Alignment marker lock only once (not once in the PMA and again in the PCS). AM-lo plus deskew is a very natural coupling of functions.					
It's a multiplexor or a multiplexing function	(contonial)	Suggested	IRemedy				
SuggestedRemedy add the word function after multiplexing		176.6. After ti	1.3.2, 176.7.1.3 he Alignment M	8.2, 176.8.1.3.2 arker lock, no	?): deskew of the P	ent marker lock o PCSLs is required d adverse function	
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.		Proposed	Response	Response	Status W		
Implement with editorial license and discretion.		An imp the co		the PMA Rx co			ng alignment lock (as d should not be called

C/ 176 SC 176.5.1.4.2 Page 28 of 137 5/31/2024 10:47:10 AM

C/ 176 SC 176.5.1.5 P205 L20 # 484	C/ 176 SC 176.5.1.6	6.1 P208	L14	# 487
Slavick, Jeff Broadcom	Slavick, Jeff	Broadcom		
Comment Type E Comment Status D (itorial) Comment Type T	Comment Status D		Reorg
Detailed functions and state diagrams has no content		using the same state machine I_pair_lock_demux have a <y< td=""><td></td><td>nake Figure 176-8 and</td></y<>		nake Figure 176-8 and
SuggestedRemedy Change 176.5.1.6 to be a sub-heading of 176.5.1.5 (4th tier I think).	SuggestedRemedy			
Proposed Response Response Status W		pair_lock_demux defintion and pol_pair_lock_demux <y> to ha</y>		
PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.	Proposed Response PROPOSED ACCEPT	Response Status W		
C/ 176 SC 176.5.1.6.1 P205 L31 # 485		oonse to comment # 80.		
Slavick, Jeff Broadcom	C/ 176 SC 176.5.1.6	.4 P 206	L 38	# 474
Comment Type T Comment Status D	Reorg Slavick, Jeff	Broadcom		
The Variables state that these all of them, not inheriting CI119 functions except for s	e Comment Type T	Comment Status D		(bucket)
replacements.				
SuggestedRemedy		nctions and variables defined rt_lock_mux is used to replace		ose aren't called out to
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use:				ose aren't called out to
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir **with dir in italics ** amps_lock_dir ** with dir in italics **	be used, just that resta SuggestedRemedy		ce restart_lock	
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir **with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics **	be used, just that resta SuggestedRemedy	rt_lock_mux is used to replace	ce restart_lock	
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir **with dir in italics ** amps_lock_dir ** with dir in italics **	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT	art_lock_mux is used to replace ariables defined in 119.2.6.2" Response Status W IN PRINCIPLE.	ce restart_lock after Table 119-	
Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir **with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrin	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT	art_lock_mux is used to replace ariables defined in 119.2.6.2" <i>Response Status</i> W	ce restart_lock after Table 119-	1 with edtiorial license
Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir **with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT	art_lock_mux is used to replace ariables defined in 119.2.6.2" <i>Response Status</i> W IN PRINCIPLE. ted remedy with editorial licer	ce restart_lock after Table 119-	
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir ** with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrin	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT Implement the suggest	art_lock_mux is used to replace ariables defined in 119.2.6.2" <i>Response Status</i> W IN PRINCIPLE. ted remedy with editorial licer	ce restart_lock after Table 119- nse.	1 with edtiorial license
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir **with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrin Cl 119 when possible.	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT Implement the suggest CI 176 SC 176.5.1.6 Slavick, Jeff Comment Type T	art_lock_mux is used to replace ariables defined in 119.2.6.2" <i>Response Status</i> W IN PRINCIPLE. ted remedy with editorial licer 5.5 <i>P</i> 206 Broadcom <i>Comment Status</i> D	ce restart_lock after Table 119- nse. <i>L</i> 48	1 with edtiorial license # [477 (bucket)
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir ** with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrince Cl 119 when possible. Change referenes to Figure 119-12 to point to the new figure. With editorila license Proposed Response Response Status W	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT Implement the suggest CI 176 SC 176.5.1.6 Slavick, Jeff Comment Type T Figure 119-12 uses fur	art_lock_mux is used to replace ariables defined in 119.2.6.2" <i>Response Status</i> W IN PRINCIPLE. ted remedy with editorial licer 5.5 <i>P</i> 206 Broadcom	ce restart_lock after Table 119- nse. <i>L</i> 48 in CL119 but the	1 with edtiorial license # [477 (bucket)
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir ** with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrint Cl 119 when possible. Change referenes to Figure 119-12 to point to the new figure. With editorila license Proposed Response Response Status PROPOSED ACCEPT IN PRINCIPLE.	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT Implement the suggest CI 176 SC 176.5.1.6 Slavick, Jeff Comment Type T Figure 119-12 uses fur	art_lock_mux is used to replace ariables defined in 119.2.6.2" Response Status W IN PRINCIPLE. ted remedy with editorial licer 5.5 P206 Broadcom Comment Status D notions and variables defined	ce restart_lock after Table 119- nse. <i>L</i> 48 in CL119 but the	1 with edtiorial license # [477 (bucket)
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir ** with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrint Cl 119 when possible. Change referenes to Figure 119-12 to point to the new figure. With editorila license Proposed Response Response Status W	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT Implement the suggest CI 176 SC 176.5.1.6 Slavick, Jeff Comment Type T Figure 119-12 uses fur be used, just that resta SuggestedRemedy	art_lock_mux is used to replace ariables defined in 119.2.6.2" Response Status W IN PRINCIPLE. ted remedy with editorial licer 5.5 P206 Broadcom Comment Status D notions and variables defined	ce restart_lock after Table 119- nse. <i>L</i> 48 in CL119 but the ce restart_lock	1 with edtiorial license # [<u>477</u> <i>(bucket)</i> ose aren't called out to
SuggestedRemedy Copy Figure 119-12 into CI 176 and modify it to use: restart_lock_dir ** with dir in italics ** amps_lock_dir ** with dir in italics ** pcs_lane_mapping_dir ** with dir in italics ** add a NOTE that italics dir is either mux or demux In Variables, Constants and Counters sections define everything that is used, referrince Change referenes to Figure 119-12 to point to the new figure. With editorila license Proposed Response Response Status PROPOSED ACCEPT IN PRINCIPLE.	be used, just that resta SuggestedRemedy add "using the state va Proposed Response PROPOSED ACCEPT Implement the suggest CI 176 SC 176.5.1.6 Slavick, Jeff Comment Type T Figure 119-12 uses fur be used, just that resta SuggestedRemedy	art_lock_mux is used to replace ariables defined in 119.2.6.2" Response Status W IN PRINCIPLE. ted remedy with editorial licer 5.5 P206 Broadcom Comment Status D noctions and variables defined art_lock_mux is used to replace	ce restart_lock after Table 119- nse. <i>L</i> 48 in CL119 but the ce restart_lock	1 with edtiorial license # [<u>477</u> <i>(bucket)</i> ose aren't called out to

C/ 176 SC 176.5.1.6.5 Page 29 of 137 5/31/2024 10:47:10 AM

C/ 176	SC 176.5.1.6	5 P208	L 9	# 483	C/ 176	SC	176.5.1.6.6	6 P 20	8	L 34	# 538
Slavick, Je	eff	Broadcom			Rechtman	, Zvi		Nvidia			
Comment	Type E	Comment Status D		(editorial)	Comment	Туре	TR	Comment Status	D		Reor
I think	it's best if the Sta	art of the counter is the last th	ing in the Box					igure 176û8ùPMA re			
Suggested	Remedy							fferent reference ske			PMA. However, each
	'Start symbol_pa _OF_SYMBOL_F	r_lock_counter_demux" to be AIR_LOCK box	e the last thing in		require lanes c	ements of that l	per PMA la ane are loc	ane (e.g. one PMA la ked, but other PMA	ne doesn't lane still ne	require SLIF ed to skew t	because all PCS to find the 20 symbol
Proposed I	Response	Response Status W			bit bou PMA.	Indaries	s)therefore	the state diagram sh	ould be det	fine per PMA	A lane and not for per
	OSED ACCEPT nent with editoria	IN PRINCIPLE.			Suggested	Remea	ly				
C/ 176	SC 176.5.1.6	5 P 208	L11	# 482			ate diagram e defined p	per PMA lane and r	not per PMA	A, this includ	e change in the
Slavick, Je		Broadcom			restart	_lock_c	demux <y></y>				
Comment		Comment Status D		(bucket)			lock_demu	x <y> counter_demux<y></y></y>			
Counte	er _done needs to	be at the end of the counter	name.				lock_demu				
Suggested	Remedy				Proposed I	Respon	ise	Response Status	w		
		ck_counter_done_demux to ter_demux_done			-			N PRINCIPLE. nse to comment # 80).		
Proposed I	Response	Response Status W			C/ 176	SC	176.5.2	P 20	8	L 40	# 601
-	OSED ACCEPT	-			de Koos, A	Andras		Microc	hip Techno	logy	
In Fig '	176-8, change "s ol pair lock cou	ymbol_pair_lock_counter_do nter_demux_done". Remove	ne_demux" to the definition of t	ne variable	Comment	Туре	Е	Comment Status	•	0,	(editoria
	ol_pair_lock_cou	nter_done_demux" from 176.			the lab	els on t	the interfac	es, it is identical to the	he 8:1 PMA		ers it attaches to and ng for 16:2 vs 2:16 for
C/ 176	SC 176.5.1.6	6 P 207	L 6	# 378				00G, and 16:8 vs 8:1		/ rather than	n specifying transmit
Ofelt, Davi	d	Juniper Netwo	orks								1:8 would specify the
Comment		Comment Status D		(bucket)	PMD-F			uppe that just point to	othor out	alaunan in c	in easy way to cause
Should	there be an arc	from ALIGNMENT_FAIL to L	OSS_OF_ALIGN	()	confus		iny sub-cia	uses mai just point it			in easy way to cause
Suggested	Remedy				Suggested	Remea	ly				
	idd the arc				Consid	ler spe	cifying the	1:8 and 8:1 (and equ	ivalent SM-	-PMAs for ot	her rates) together.
Proposed I	Response	Response Status W			Proposed I	Respon	ise	Response Status	w		
In the proces to false	s of Fig 119-12 t	IL state, restart_lock_mux is b be restarted on all lanes. The he state machine of 176-7 to	nis results in all_l	ocked_mux to be set				N PRINCIPLE. license and discretio	n.		

C/ 176 SC 176.5.2

C/ 176	SC 176.6	P 213	L1	# 600	Cl 176	SC ·	176.6.1	P 213	L 5	# 80
de Koos, A	Andras	Microchip Tec	hnology		Huber, Th	omas		Nokia		
Comment	Type E	Comment Status D		(editorial)	Comment	Туре	т	Comment Status D		Reorg
repeat Even t	ing everything is he figures for 20 general form w	le to merge Clause 176.5 and s hardly necessary. 0GBASE-R SM-PMA (Figure ith a variable number of PCSL	176û3, Figure	176û4, Figure 176û5)	than th symbo essen	ne numb ol interle tially the	oers of lar aving. Al same. I	DOG 16:2 PMA and the 200G es. The 1.6T 16:8 is different of the PMAs with the same would simplify maintenance les were parameterized as m	t since it has 4 number of lan and likely rea	40b deskew and 4- es on both sides are
Consid	der merging sub	clauses 176.5 and 176.6			Suggestee	Remed	'y			
PROP Impler	nent with editori	Response Status W IN PRINCIPLE. al license and discretion.			1.6T r figures rates a	n:n PMA s with th and the	As, and or e parame	gh 176.8 into 3 clauses: one le for 200/400/800/1.6T m:m ters m and n for the number m an n (e.g, with columns PH 2; etc.).	PMAs, and us of lanes. Inclu	se a single set of text and de a table showing PHY
C/ 176	SC 176.6.1	P 213	L 4	# 602	Proposed	Respon	se	Response Status W		
de Koos, A	Andras	Microchip Tec	hnology		PROF	OSED	ACCEPT	, IN PRINCIPLE.		
exist ir	es 176.6, 176.7 n Clause 176.5 (Comment Status D and 176.8 are missing the 'ove e.g. 176.5.1.1). The equivaler se (e.g. 176.6.1)			diagra Implei	ms mor nent wit	e generic h editoria			
Suggested					C/ 176		176.6.1	P 214	L 53	# 539
00		es consistently between 200G	BASE-R and 4	00GBASE-R.	Rechtmar	ı, Zvi		Nvidia		
	BASE-R, 1.6TBA			,	Comment	Туре	TR	Comment Status D		DelayOddPCSLs (bucket)
-	, OSED ACCEPT	Response Status W IN PRINCIPLE. al license and discretion.			The fu by 2 F can be The in multip	Inctions S-FEC mislea tention lex and	of "Delay codeword ding, as t is to delay	Figure 176û11. odd PCSLs s" on Tx path and "Delay even hey could be interpreted as a v the odd (Tx) and even (Rx) ex symbols from different 2 R 76û13	delay by 10,8 PCSLs by 68	880 symbols.
					Suggested		-			
					Modify	the de	scription i	n the Tx path box from "Delay	y odd PCSLs I	by 2 RS-FEC codewords"

Modify the description in the Tx path box from "Delay odd PCSLs by 2 RS-FEC codewords" to "Delay odd PCSLs by 68 symbols" and in the Rx path box from "Delay even PCSLs by 2 RS-FEC codewords" to "Delay even PCSLs by 68 symbols"

Proposed Response Response Status W

PROPOSED REJECT.

Resolve using the response to comment #533.

C/ 176 SC 176.6.1

Cl 176	SC 176.6.1.2.1	P 215	L 22	# 486	C/ 176	SC 176.7.1.	2.2 P	223	L 39	# 459
Slavick, Jef	f	Broadcom			Opsasnick	, Eugene	Broa	adcom		
Comment T	ype T C	Comment Status D		Reorg	Comment	Туре Т	Comment Statu	S D		Figures (bucket
"ALL" P	CSLs	't need an exception sinc	e the referred to	exts says to do it across	PCSL	s in the upper ha	Figure 176-17, on the alf (PCSL 16-31) is n figures included at le	ot showr	. It would be eas	
SuggestedR		s 16 lanes exception in 17	66121		Suggested	IRemedv	-			-
		32 lanes exception in 17				-	w PCSLs for lanes 0	,1, and 3	1. Suggest to sh	now the PCSL sybol
Proposed R	esponse Re	esponse Status W			patterr	n for lanes 0,1,à	15, 16, 17,à31.			-
	SED ACCEPT IN P using the response	-				OSED ACCEPT	Response Status			
C/ 176	SC 176.6.1.2.5	P 216	L1	# 290	Impler	nent the sugges	sted remedy with edit	orial lice	nse.	
Galan, Jose	Vicente	Maxlinear Inc			C/ 176	SC 176.7.1.	2.2 P	223	L 52	# 593
Comment T		Comment Status D		Figures (bucket)	de Koos, A	Andras	Mici	ochip Te	chnology	
transmis SuggestedR	ssion order of the ou Remedy	t lane arrow is indicated in utput PCSL symbols arrow to follow the actual			use C, used i	00GBASE-R PC D to illustrate th		s, so figu s 16-31,	rather than A',B'.	Figures (bucket û17, 176û18 should The A',B' notation is n engines A and B but
Proposed R	esponse Re	esponse Status W			Suggested	Remedy				
	SED ACCEPT IN P	-				-	û16, 176û17, 176û18	to avoid	the A',B' notation	n
Update license.	Fig 176-12 to clarify	the order of transmission	n on the output	lane, with editorial	Proposed	Response	Response Status	w		
					, PROP	, OSED ACCEPT	IN PRINCIPLE.			
C/ 176	SC 176.7.1	P 221	L 20	# 379			ng "C" or "D" for 800			
Maniloff, Eri	ic	Ciena					ecause Clause 175 (" and "D" are used in FEC-C and FEC-D.
Comment T	/l= -	Comment Status D		(editorial)	Howe	er, the clarity of	f the draft will be imp			
Table 1 800GBA		eferences to 400GBASE-I	R, these should	l be replaced with	Theref	ore, implement				
SuggestedR	Remedy						ncing figures Fig 176 abols A and B are fro			ow 0 of the 800GBASE-
Replace	e the text "400GBAS	E-R" with "800GBASE-R	in Table 176-	7.	R PCS	s, while the RS-I	FEC symbols A' and			
Proposed R	esponse Re	esponse Status W			Impler	nent with editori	al license.			
	SED ACCEPT IN P ent with editorial lice									

C/ 176 SC 176.7.1.2.2

C/ 176	SC 176.7.1.2.2	P 224	L 38	# 294	C/ 176	SC 1	76.9.1.2	P 242	L12	# 540
Galan, Jos	e Vicente	Maxlinear Inc			Rechtman	, Zvi		Nvidia		
Comment	Туре т	Comment Status D		Figures (bucket)	Comment	Туре	TR	Comment Status D		Precoding
4 RS (CWs	PMA section, it is referred t	o AÆ/BÆ sym	bols, although we have	stated	that the	ôPrecodi	to xAUI-n C2C. However, th ng capability in all physically alÆö (per ran_3dj_01a_230	y instantiated int	erfaces is
Suggested Chang		r the 4 RS CWs, instead of	A. B. AÆ. BÆ		also e	ncompas	ss xAUI-n			
Proposed		Response Status W	, _ ,,		Suggested					
•	OSED ACCEPT IN	,				AUI-n C2				
Resolv	e using the respons	se to comment # 593			Proposed	,		Response Status W N PRINCIPLE.		
CI 176	SC 176.7.1.2.4	P 225	L1	# 289	-			nse to comment #21		
Galan, Jos		Maxlinear Inc			C/ 176	SC 1	76.9.1.2	P 242	L23	# 541
Comment	<i>71</i>	Comment Status D		Figures (bucket)	Rechtman	, Zvi		Nvidia		
		ut lane arrow is indicated ir output PCSL symbols	the opposite of	lirection than the actual	Comment	Туре	т	Comment Status D		Precoding
Suggested								ly to the case of PMD contr rical interfaces	ol function opera	ation, need to refer to
Chang	e the direction of the	e arrow to follow the actual	transmission c	rder.	Suggested	Remedy	,			
Proposed	Response F	Response Status W			Replac	-				
	U	PRINCIPLE. larify the order of transmiss	sion on the out	out lane, with editorial	and tra recode	aining is er_tx_out	enabled b _enable_	to the service interface of by the management variable i and precoder_rx_in_enable	e mr_training_en e_i shall be set a	able (see 136.7), then as determined by the
C/ 176	SC 176.8.1.1	P 231	L14	# 480				the LINK_READY state on which the MD control function		
Slavick, Je	eff	Broadcom					n depende			
Comment	Туре Е	Comment Status D		(editorial)	With:					
test pa	ttern check is overa	Ipping with IS_SIGNAL.rec	uest					Control function and start-u		
Suggested	Remedy							e management variable mr_ nable_i and	_training_enable	(see Annex 176A),
Move	test pattern check"	to no overlap withPMA.IS_	SIGNAL.reque	st in Figure 176-21	preco	der_rx_in	_enable_	i shall be set as determined		
Proposed	Response F	Response Status W						ane i (see 176A.10.4 and F affects these	igure 176Aû6).	The method by which
	OSED ACCEPT IN							ion dependent"		
Impler	nent with editorial lic	ense and discretion.			Proposed	Respons	se	Response Status W		
					-			N PRINCIPLE.		
					Resolv	e using	the respo	nse to comment #21		

C/ 176 SC 176.9.1.2

C/ 176	SC 176.11	P 243	L 31	# 181	C/ 176A SC 1
Brown, Ma	itt	Alphawave Se	mi		Ran, Adee
Comment	Туре Т	Comment Status D		Skew	Comment Type
skew a one typ clause	at each instantiate be of PMA for ea s for 200G, 4000	s traditionally been included in ed interface from the PMD to ch Ethernet rate. Now we hav G, and 800G. A rate-neutral an	the PCS. Until e two types de id type-neutral	now, there was only fined in two separate	The annex title and text there and "training" (
require	ed. This seems b	eyond a subclause in Clause	176.		This mega-fun acronym-friend
Suggested	-				3, Table 179-1
	· ·	[,] perhaps a subclause in 176E le PHY sublayer stack. A pres	,		SuggestedRemedy
Proposed I		Response Status W			A presentation
•	OSED ACCEPT	•			Proposed Respons
		ess this comment is expected.			PROPOSED A
URL/bi [Editor	rown_3dj_03_24 's note: CC many	/]		# [000]	The following p meeting: https://www.iee
C/ 176	SC 176C	P 594	L1	# 298	May Interim St
Loewentha Comment	Туре Т	alphawave ser Comment Status D test vectors" is currently empt		Test Vectors	Straw Poll #4 The nomenclat A. "Inter-sublay B. "Sublink trai
Suggested	Remedy				Results (all): A
		OGBASE-R 8:1, 400GBASE-R nnex 176C based on supportir		-	See:
Proposed I		Response Status W	ig contribution	on way interim.	https://www.iee
PROP	OSED ACCEPT	IN PRINCIPLE.			Update the dra
Pendin	ig CRG review of	f presentation and discussion.			the following n "inter-sublayer "ILT". Implement with
					implement with
					[Editor's note: technical.]

C/ 176A SC 176A	P 548	L6	# 196
Ran, Adee	Cisco		

т Comment Status D

le includes "Control function and start-up protocol", while in the subclauses are alternative terms such as "interface control function", "Start-up protocol", (176A.9).

nction requires nomenclature to describe it. It would be good to have an ndly name so that it can be included in tables of other clauses (e.g. Table 116--1).

on with proposed nomenclature is planned.

Proposed Response	Response Status	W

ACCEPT IN PRINCIPLE.

presentation was reviewed by the 802.3dj task force at the May Interim eee802.org/3/dj/public/24_05/law_3dj_01_2405.pdf

Straw poll # has the following results: ature that I prefer for function defined in Annex 176A is: ayer link training" (ILT or ISLT) aining" (SLT) A: 81, B: 5

ee802.org/3/dj/public/24_05/motions_3dj_2405.pdf

raft such that references to the link training function (AKA control function) use name and acronym instead: er link training" th editorial license.

The comment type was change from ER to T as it was deemed somewhat

C/ 176A SC 176A Page 34 of 137 5/31/2024 10:47:10 AM

C/ 176A SC 176A	P 555	L 29	# 446	C/ 176A	SC 176A.1	P 548	L12	# 577			
Simms, William	NVIDIA			Law, David		HPE					
Comment Type E	Comment Status D		(editorial)	Comment T	pe TR	Comment Status D		ILT Genera			
3 states of Coefficien	t select echo are undefined					segment' and 'link' in Annexe					
SuggestedRemedy				says, 'in á	single-segme	nt or multiple-segment links',	are problematic.				
note in table 176A-3	hat 010, 011, 100 are undefine	ed/invalid				ause 1.4.505 'segment' define					
Proposed Response PROPOSED ACCEP Implement with edito	Response Status W T IN PRINCIPLE. rial license and discretion.			area net two inte á As a res sublaye	work.'. Subcla rfaces of gene sult, I believe it rs a 'segment'.	between Medium Dependent use 1.4.372 'link' defines it as ric cabling. (From ISO/IEC 11 would only be correct to call I do not believe that the elec yers is a 'segment'.	s 'The transmission 1801.)'. an electrical char	on path between any nnel between two PMD			
				SuggestedR	Remedy						
				I would suggest 'section' as an alternate to 'segment', but that was used for 'The portic the link between the PSE Power Interface (PI) and the PD PI.' (see 1.4.378) when PoE a similar definition problem. Alternatives, therefore, might be 'Division' and 'Sector'.							
							'segmer	nt' and 'link' wit	the following is a rewording o hout the use of a new term. I e a significant rewrite of the A	acknowledge, ho	
				betweer mechan perform fixed-ler	adjacent sub ism through w ance. The prot ngth training fra	acilitates timing recovery and layers, or chains of multiple a hich the receiver can configur iocol supports these functions ames across the electrical cha -end indications across chain	djacent sublayers re the transmitter s through the con annel between ad	s while providing a to optimize tinuous exchange of djacent sublayers and			
				Proposed Response Response Status W							
				The follo Interim Impleme	owing contribution meeting https://	TIN PRINCIPLE. tion was reviewed by the 802. //www.ieee802.org/3/dj/public ng with editorial license. th "section" and "link" with "pa	/24_05/law_3dj_0				

C/ 176A SC 176A.1

C/ 176A	SC	176A.2	P 548	L 24	# 198
Ran, Adee			Cisco		
Comment T	Гуре	ER	Comment Status D		(editorial)
	eters c		ool variables" do not appear ce interface primitives of the		
Suggested	Reme	dy			
Tie the	text d	efining the	symbols to the service inter	face of the subl	ayer.
Proposed F	Respo	nse	Response Status W		
			N PRINCIPLE. license and discretion.		
C/ 176A	SC	176A.2.1	P 547	L 3	# 563
Law, David	I		HPE		
Comment 7	Гуре	т	Comment Status D		ILT PICS (Bucket)
for elec	ctrical	interfaces'	nt in Annex 176A (normative is in 176A.2.3.1 'PRBS13 fu ents in relation to the entire	nction'. It seem	s, however, that there
Suggested	Reme	dy			
training [2] In s	g frame ubclau	e marker sl	.1, change 'The training fram nall be a run'. .2, change 'The control field of		
		•	.2, change 'The status field	comprises' to	read ' The status field

shall be comprised of ...'.

[4] In subclause 176A.2.3, change 'The training pattern is the result of a' to read 'The training pattern shall be the result of a ...'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement suggeted remedy with editorial license.

C/ 176A	SC 176A.2.2	P 549	L 9	# 561
Law, David		HPE		
Comment Typ	e T	Comment Status D		ILT Frame (bucket)

ILT Frame (bucket)

Subclause 176A.2.2 'Control and status fields' says that 'The control field comprises 16 bits with the structure defined in 176A.3.', yet figure 176Aû1 'Training frame structure' above shows the control field comprising of 16 cells. It, therefore, appears that the field is comprised of 16 cells that convey 16 bits.

SuggestedRemedy

[1] Change the first paragraph of 176A.2.2 to read 'The control field is comprised of 16 cells which convey 16 bits with the structure defined in 176A.3. The status is comprised of 16 cells which convey 16 bits with the structure defined in 176A.4.

[2] Change the last sentence of the penultimate paragraph of 176A.2.2 to read 'Within each field, the order of transmission is from bit 15 to bit 0, conveyed by cell 15 to cell 0 respectively.'.

Proposed Response Response Status W

PROPOSED REJECT.

The cell concept is described in detail in the following paragraph (second paragraph of 176A.2.2). Note that the text is identical to the text in 136.8.11.1.2.

Text is correct as written, proposed remedy does not improve the clarity of the draft.

C/ 176A SC	176A.2.2	P 549	L 25	# 562
Law, David		HPE		
Comment Type	т	Comment Status D		ILT Frame

Subclause 176A.2.2 says '... if a violation of the DME encoding rules is detected within the control field or the status field, the contents of both fields in that frame are ignored.'. If this is requirement, suggest it should be stated using a 'shall' statement.

SuggestedRemedy

Change '... the contents of both fields in that frame are ignored.' to read '... the contents of both fields in that frame shall be ignored.'.

Proposed Response Response Status W

PROPOSED REJECT.

Note that this text is identical to the text in 136.8.11.1.2.

Text is correct as written, proposed remedy does not improve the clarity of the draft.

C/ 176A SC 176A.2.2

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C/ 176A	SC 176A.2.3.	2 P 552	L14	# 199	C/ 176A	SC 1	76A.2.3.3	P 552	2 L 3 4	# 548
Ran, Adee		Cisco			Rechtman,	Zvi		Nvidia		
Comment T	Type TR	Comment Status D		ILT Pattern (Bucket)	Comment T	уре	TR C	Comment Status	ס	ILT Pattern
	efault identifier fo ich selects polyn	or each lane is its lane numb nomial_0)"	er (e.g., the defa	ault value for identifier_0	use the	same F		al seed, there will	exits the QUIET sta be an undesired cros	te simultaneously and sstalk effect. This
Some i	nterfaces have 8	3 lanes.			Suggested	Remedy	,			
The de	fault mapping pr	ovided in Table 176Aû1 can	be used instead	l.		-		ane must use diffe	rent initial seed.	
Suggestedl	Remedy				Proposed F	Respons	e Re	esponse Status	N	
	e to "The default wn in Table 1764	identifier for each lane is the	e same as that c	f the PRBS13 function,			CCEPT IN P	RINCIPLE. to comment #358	3	
Proposed F	Response	Response Status W			C/ 176A	SC 1	76A.2.3.3	P552	2 L 40	# 200
	OSED ACCEPT				Ran, Adee			Cisco		
		g with editorial license. Ientifier for each lane is its la	ane number"		Comment T	уре	TR C	Comment Status	C	ILT Pattern
To: "Th	ne default identifi	er for each lane is the same	as that shown in	n Table 176A-1"			ariations are	produced as desc	ribed for the PRBS1	3 free-running function in
C/ 176A	SC 176A.2.3.	2 P552	L 26	# 494	176A.2	.3.2"				
Slavick, Je		Broadcom							M4 and does not hav	
Comment T		Comment Status D		ILT Pattern (Bucket)					e defined for the PRE	
	51	"stop" if trainng stops.							which would be inad	etting of the precoder equate.
Suggestedl	Remedy				Suggested			C <i>i</i>		
		progress while this mode is	selected" after '	is not stopped or reset".	00		following:			
Proposed F	Response	Response Status W			The init	ial atota		221 gonorator cha	Il not bo all zaroa	may be any other value
PROP(DSED ACCEPT	•				iai state		Son generator sha	ii not de all 20105. Il	may be any other value.
		y with editorial license.	alaatad" -ft "'	not atonnod cr						tern is generated in a
Add "W	The training is in	progress and this mode is s	selected after "Is	s not stopped of reset".				tion in 176A.2.3.2, enerator output.	except that PRBS3	1 generator output is
C/ 176A	SC 176A.2.3.	2 P552	L 31	# 497			-			
	ff	Broadcom								tern is generated in a
Slavick, Je		Comment Clature D		ILT Pattern	similar manner to the definition in 176A.2.3.2, except that PRBS31 generator output i used instead of PRBS13 generator output, and the pair of bits {A, A} is used instead					
Slavick, Jei Comment 7	Гуре Т	Comment Status D		ier ratterin					ia the pair of bite (7.,	A) is used instead of {A,
Comment T	51	f operation for PRBS13 free-	running, PAM4.		B}.	h	•			
Comment 7 There is mode.	s only 1 mode of		running, PAM4.		B}. When t			elector is set to PA	AM4 with precoding,	the training pattern is
Comment 7 There is mode. Suggestedf	s only 1 mode of <i>Remedy</i>			We do have 1 free	B}. When t generat as spec	ed from	the PRBS3 135.5.7.2. Tl	elector is set to P/ 1 PAM4 pattern by ne precoder initial	AM4 with precoding, / precoding the Gray state is not specified	
Comment 7 There is mode. Suggestedl Add PF	s only 1 mode of <i>Remedy</i> RBS13-free runni	f operation for PRBS13 free-		We do have 1 free	B}. When t generat as spec initialize	ted from cified in ed or res	135.5.7.2. Ti set during ge	elector is set to PA 1 PAM4 pattern by ne precoder initial neration of the tra	AM4 with precoding, / precoding the Gray state is not specified ining pattern.	the training pattern is -mapped PAM4 symbols
Comment 7 There is mode. Suggested Add PR Proposed R PROPC	s only 1 mode of Remedy RBS13-free runni Response DSED ACCEPT	f operation for PRBS13 free- ing with precode as an option <i>Response Status</i> W IN PRINCIPLE.		We do have 1 free	B}. When t general as spec initialize Proposed F	ted from cified in ed or res Respons	n the PRBS3 135.5.7.2. TI set during ge	elector is set to PA 1 PAM4 pattern by ne precoder initial neration of the tra esponse Status	AM4 with precoding, / precoding the Gray state is not specified ining pattern.	the training pattern is -mapped PAM4 symbols
Comment 7 There is mode. Suggested Add PR Proposed R PROPC	s only 1 mode of Remedy RBS13-free runni Response DSED ACCEPT	f operation for PRBS13 free- ing with precode as an option <i>Response Status</i> W		We do have 1 free	B}. When t general as spec initialize Proposed R PROPC	ted from cified in ed or res Respons	n the PRBS3 135.5.7.2. Ti set during ge se Ra CCEPT IN P	elector is set to PA 1 PAM4 pattern by ne precoder initial neration of the tra esponse Status	AM4 with precoding, / precoding the Gray state is not specified ining pattern. N	the training pattern is -mapped PAM4 symbols
Comment 7 There is mode. Suggested/ Add PR Proposed R PROPO Resolve	s only 1 mode of <i>Remedy</i> RBS13-free runni <i>Response</i> DSED ACCEPT e using the respo	f operation for PRBS13 free- ing with precode as an option <i>Response Status</i> W IN PRINCIPLE.	n for a training p	We do have 1 free	B}. When t generat as spec initialize Proposed R PROPO Resolve	ted from cified in ed or res Respons	n the PRBS3 135.5.7.2. Ti set during ge se Ra CCEPT IN P	elector is set to PA 1 PAM4 pattern by ne precoder initial neration of the tra esponse Status RINCIPLE. e to comment #358	AM4 with precoding, / precoding the Gray state is not specified ining pattern. N	the training pattern is -mapped PAM4 symbols

SORT ORDER: Clause, Subclause, page, line

Slavick, Jef		176A.2.3.3	P5	52	L 41	# 496
Slavick, Jell	f		Broad	dcom		
Comment T	ype	т	Comment Status	D		ILT Pattern
with pre	code v	while PRBS	n only provide PAN 31 does have thos ap the PRBS data	e optio	ns. So how can w	ct for PAM2 or PAM4 /e refer to PRBS13
	e 2nd p	, baragraph o	of 176A.2.3.3 into 3 encoding options a			now the pattern for
	SED /	ACCEPT IN	Response Status I PRINCIPLE. use to comment #3			
C/ 176A	SC '	176A.2.3.3	P5	52	L 43	# 495
Slavick, Jef	f		Broad	dcom		
Comment T The PR		T n should "s	Comment Status top" if trainng stops	-		ILT Pattern (Bucket)
SuggestedF Add "wh		•	roaress while this I	mode is	s selected" after "is	s not stopped or reset".
Proposed R						
PROPO	SED / ent the	ACCEPT IN e following v	Response Status I PRINCIPLE. with editorial license rogress and this m	e.	selected" after "is	not stopped or reset".
PROPO	OSED / ent the hile trai	ACCEPT IN e following v	I PRINCIPLE.	e. ode is	selected" after "is L 46	not stopped or reset". # 498
PROPO Impleme Add "wh	OSED / ent the nile trai	ACCEPT IN e following v ining is in p	I PRINCIPLE. with editorial license rogress and this m	e. ode is 52		
PROPO Impleme Add "wh Cl 176A Slavick, Jeff Comment T	DSED / ent the nile trai SC / f	ACCEPT IN e following v ining is in p 176A.2.3.3 T	I PRINCIPLE. with editorial license rogress and this m P5: Broad Comment Status	e. ode is 52 dcom D	L 46	# 498 ILT Pattern
PROPO Impleme Add "wh Cl 176A Slavick, Jeff Comment T There is 31 3's ir The Zer	DSED / ent the hile training SC - f ype s no ze n a row ro pad	ACCEPT IN a following v ining is in p 176A.2.3.3 T ero pad for F v when the i is really pa	I PRINCIPLE. with editorial license rogress and this m P5 Broad Comment Status PRBS31 free-runni maximal run length	e. ode is 52 dcom D ng. Th of the arker er	L 46 is means we could PRBS pattern run	# 498
PROPC Impleme Add "wh C/ 176A Slavick, Jeft Comment T There is 31 3's ir The Zer 16 UI ru	DSED / ent the hile training SC - f ype s no zee n a row ro pad in 3's f	ACCEPT IN a following v ining is in p 176A.2.3.3 T ero pad for F v when the i is really pa or the start	I PRINCIPLE. with editorial licensor rogress and this m P5 Broad Comment Status PRBS31 free-runni maximal run length rt of the Framer Ma	e. ode is 52 dcom D ng. Th of the arker er	L 46 is means we could PRBS pattern run	# <u>498</u> <i>ILT Pattern</i> d have a run length of s into Frame Marker.
PROPC Impleme Add "wh Cl 176A Slavick, Jeft Comment T There is 31 3's ir The Zer 16 UI ru SuggestedR Bring th immedia	DSED / ent the nile trainile trainile SC / f ype s no zec n a row ro pad in 3's f Remed in 2's f Remed in 2's f	ACCEPT IN a following v ining is in p 176A.2.3.3 T ero pad for f v when the p is really pa for the start y -pad back in recedes the	I PRINCIPLE. with editorial license rogress and this m P5: Broad Comment Status PRBS31 free-runni maximal run length rt of the Framer Ma of the frame marke	e. ode is 52 dcom D ng. Th of the arker er er. f the tra arker to	L 46 is means we could PRBS pattern run hsuring there is a d aining frame. Sta	# 498 <i>ILT Pattern</i> d have a run length of s into Frame Marker. distinct edge ahead of
PROPO Impleme Add "wh Cl 176A Slavick, Jeff Comment T There is 31 3's ir The Zer 16 UI ru Suggested R Bring th immedia	DSED / ent the hile training SC - f ype s no zero ro pad in 3's f Remed ately p to fram	ACCEPT IN a following v ining is in p 176A.2.3.3 T Tero pad for If v when the t is really pa or the start y -pad back i recedes the me marker of	I PRINCIPLE. with editorial license rogress and this m P5: Broad Comment Status PRBS31 free-runni maximal run length rt of the Framer Ma of the frame market nto the definition o e training frame market	e. ode is 52 dcom D ng. Th of the arker er er. f the tra arker to frame.	L 46 is means we could PRBS pattern run hsuring there is a d aining frame. Sta	# 498 <i>ILT Pattern</i> d have a run length of s into Frame Marker. distinct edge ahead of ting that it is

C/ 176A	SC 176A.3	P 553	L 20	# 358
Healey, Ada	m	Broadcom Inc.		
Comment Ty	/pe T	Comment Status D		ILT Frame

Training pattern options have been added to give receiver additional flexibility to successfully complete training. However, that flexibility is limited by a menu of fixed combinations of encoding and test pattern options. It would be better if encoding and test pattern selections were separated to allow receivers to request whatever combination best suits their needs. There is space in the control and status field structures to accommodate this.

SuggestedRemedy

In Table 176A-2, restore bits in control field bits 8 and 9 to the original "Modulation and precoding request" encoding defined in Clause 162. Define bits 5 and 6 to be "Test pattern request" with 00=PRBS13, 01=Free-running PRBS13, 10=Reserved, and 11=Free-running PRBS31. Restore bits 10 and 11 in the status field (Table 176A-3) to the "Modulation and precoding status" encoding defined in Clause 162. Define bits 12 and 13 to be "Test pattern status" using the same encodings as the control field. Update Figure 176A-2, 176A.3.2, and 176A.10.3.1 accordingly. Also add subclauses corresponding the Modulation and precoding request/status fields.

Proposed Response	Response Status W						
PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. Pending review of a presentation and task force review. URL/brown_3dj_02_2406							
C/ 176A SC 176A.3.1	P 553	L 45	# 499				
Slavick, Jeff	Broadcom						
Comment Type T	Comment Status D		ILT Coefficients (Bucket)				
Remove the specifity of h							

SuggestedRemedy

Change:

ôThe initial condition request bits are used to select one of the five predefined transmitter equalizer configurations (presets) specified in the AUI or PMD clauses. ô To:

ôThe initial condition request bits are used to select a predefined transmitter equalizer configurations (presets) specified in the AUI or PMD clauses. ô

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license.

Change: "The initial condition request bits are used to select one of the five predefined transmitter equalizer configurations (presets) specified in the AUI or PMD clauses." to: "The initial condition request bits are used to select one of the up to five predefined transmitter equalizer configurations (presets) specified in the AUI or PMD clauses."

TYPE: TR/technical required ER/editorial required GR/gener	al required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line	

C/ 176A	Page 38 of 137
SC 176A.3.1	5/31/2024 10:47:10 AM

	SC	176A.4	P 555	L10	# 549
Rechtman,	Zvi		Nvidia		
Comment T	Гуре	т	Comment Status D		ILT Frame (Bucket)
The fie	ld in b	it 14 - "On	Table 176Aû3ùStatus fiel e" require some explanati opted test patterns, the su	on. ItÆs unclear wh	
Suggestedi Define		<i>dy</i> irpose of ti	nis bit		
Proposed F PROP('		Response Status WIIN PRINCIPLE.		
	e bit is	s set to 1 to trol function		that the link partne ulti-segment contro	
"inter-s	ublaye	er link trair	ing". If necessary, adjust	the text to reflect th	e new terminology.
"inter-s Cl 176A	ublaye SC		ing". If necessary, adjust P555		
"inter-s C/ 176A Dudek, Mik	ublaye SC ke	er link trair 176A.4	ing". İf necessary, adjust P555 Marvell	the text to reflect th	e new terminology. # 61
"inter-s C/ 176A Dudek, Mik Comment 7	ublaye SC ke Type	er link trair 176A.4 T	ing". İf necessary, adjust P555 Marvell Comment Status D	the text to reflect th	e new terminology. # <u>61</u> ILT Frame
"inter-s C/ 176A Dudek, Mik Comment 7	ublaye SC ke Type	er link trair 176A.4 T	ing". İf necessary, adjust P555 Marvell	the text to reflect th	e new terminology. # <u>61</u> ILT Frame
"inter-s C/ 176A Dudek, Mik Comment 7	SC SC SC <i>Type</i> d be b	er link trair 176A.4 T etter to ha	ing". İf necessary, adjust P555 Marvell Comment Status D	the text to reflect th	e new terminology. # <u>61</u> ILT Frame
"inter-s Cl 176A Dudek, Mik Comment 7 It would Suggested In Tabl same a	Ublaye SC Cype d be be Remed e 176/ as they g PRB	T T thetter to ha dy A-3 use the vere in c	ing". İf necessary, adjust P555 Marvell Comment Status D	the text to reflect th <i>L</i> 17 e same as for previ atterns keeping the to PAM4 PRBS13	e new terminology. # <u>61</u> <i>ILT Frame</i> ous clause 136. : bits 11 and 10 the , 100 to PAM4 free
"inter-s Cl 176A Dudek, Mik Comment 7 It would Suggested In Tabl same a running	ublaye SC ce <i>Type</i> d be be Remed e 176/ as they PRB	T T A-3 use the verter in c S13, 011 t	ing". If necessary, adjust P555 Marvell Comment Status D ve the existing patterns th e 1 in bit 12 for the new pa lause 136 i.e. change 010	the text to reflect th <i>L</i> 17 e same as for previ atterns keeping the to PAM4 PRBS13	e new terminology. # 61 <i>ILT Frame</i> ous clause 136. : bits 11 and 10 the , 100 to PAM4 free

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #358.

C/ 176A	SC	176A.4	P55	5 L27	# 501
Slavick, Je	eff		Broado	com	
Comment	Туре	т	Comment Status	D	ILT Frame (Bucket)
You ha missio		0	data you're sending	but you don't ha	ve your self setup to send
Suggested	Reme	dy			
Remov	e the	"No data is	available," from the c	option 1 of Exten	d training bit
Proposed I	Respo	nse	Response Status	w	
			N PRINCIPLE. medy with editorial lie	cense.	
C/ 176A	SC	176A.4.3	P 55	6 <i>L</i> 4	# 574
Law, David	ł		HPE		
Comment	Туре	т	Comment Status	D	ILT Frame (Bucket)
receive where	er is in the res	dicating that sponse time	t it has identified train requirements specif	ning frame marke fied in 176A.10 a	rame lock bit is set to 1, the er positions and is in a state re met.'. It then goes on to cal_tf_lock are both true.'.

á 176A.10 is 'Variables, functions, timers, counters, and state diagrams', so I wonder if the reference should be to 176A.8 'Handshake timing'? In addition, I don't believe the variables training and local_tf_lock are conditioned on the response time requirements specified in 176A.10 being met, at least I didn't see it in their descriptions.

SuggestedRemedy

In 176A.4.3 change the text '... response time requirements specified in 176A.10 are met.' to read '... response time requirements specified in 176A.8 are met.' and the text '... and is not set to 1 until training and local_tf_lock are both true.' To read '... and is not set to 1 until training and local_tf_lock are both true and the response time requirements specified in 176A.10 can be met.'

Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license.

Change: "... response time requirements specified in 176A.10 are met."

To: "... response time requirements specified in 176A.8 are met."

Change: "... and is not set to 1 until training and local_tf_lock are both true."

To: "... and is not set to 1 until training and local_tf_lock are both true and the response time requirements specified in 176A.8 can be met."

C/ 176A SC 176A.4.3 Page 39 of 137 5/31/2024 10:47:10 AM

C/ 176A	SC 176A.4.8	P 5	56	L 37	# 564
Law, David		HPE			
Comment Ty	pe T	Comment Status	D		ILT Frame (Bucket)

176A.4.8 'Coefficient status' says that 'The acknowledge reflects the value of coef_sts resulting from the procedure described in 176A.6.3.'. I don't see a procedure that sets coef_sts in 176A.6.3, but there is one in 176A.6.4. With that said, is it correct that it is just this procedure that sets coef_sts? On review of Figure 176Aû9 'Coefficient update state diagram', I see it directly sets coef_sts to 'not_upd' in the OUT_OF_SYNC state and indirectly sets coef_sts using the procedure described in 176A.6.4 through calls to the UPDATE_C(k) function in the NEW_REQUEST state. This seems to be confirmed by the first paragraph of 176A.6.4 which says 'The handling of incoming requests is specified by the coefficient update state diagram (Figure 176Aû9). The behavior of the UPDATE_C(k) function shall be consistent with the following algorithm.'.

SuggestedRemedy

Change 'The acknowledge reflects the value of coef_sts resulting from the procedure described in 176A.6.3.' to read 'The coefficient status bits reflect the value of coef_sts variable generated by the coefficient update state diagram (Figure 176Aû9).'.

PROPOSED ACCEPT.

C/ 176A SC	C 176A.4.8	P 556	L 37	# 576
Law, David		HPE		
Comment Type	т	Comment Status D		ILT Frame (Bucket)

176A.4.8 'Coefficient status' says 'The acknowledge reflects the value of coef_sts resulting from the procedure described in 176A.6.3.'. While it is correct that the coef_sts variable is updated by the UPDATE_C(k) function in 176A.6.3, I believe the OUT_OF_SYNC, NEW_INDEX, and WAIT states of the Coefficient update state diagram also update the coef_sts variable. Further, 176A.10.3.2 says that the ENCODE_STS function 'Encodes portions of the status field of transmitted training frames.' and that '... coef_sts is mapped to the coefficient status bits ...'.

SuggestedRemedy

Since calls of the UPDATE_C(k) function and direct updates of the coef_sts variable all occur in the Coefficient update state diagram, suggest that 'The acknowledge reflects the value of coef_sts resulting from the procedure described in 176A.6.3.' in 176A.4.8 should be changed to just read 'The acknowledge reflects the value of coef_sts generated by the Coefficient update state diagram '.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

This comment appears to address the same concern expressed in comment #564. Resolve using the response to comment #564.

C/ 176A	SC 176A.4.1+	P 555	L 46	# 447
Simms, Willi	iam	NVIDIA		
Comment Ty	vpe E	Comment Status D		(editorial)

Should the status field name be uniquified? The field name in the text of the table and text sections below the table do not clearly identify text as a field.

SuggestedRemedy

Change Receiver ready to RECEIVER_READY or at maybe receiver_ready and use the same in the text below the table 176A-3- Status field structure. Pertains to all field names.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement with editorial license and discretion.

C/ 176A SC 176A.6	P 557	L 3	# 201
Ran, Adee	Cisco		
Comment Type TR	Comment Status D		ILT Coefficients (Bucket)

"When the interface control state diagram (Figure 176Aû6) is in the TRAIN_LOCAL state, the device may request its link partner to..."

It is important to also note at which states requests from the link partner should be processed, and what happens in the other states - this may not be obvious.

SuggestedRemedy

Insert the following paragraphs after the first one:

When the interface control state diagram is in either the TRAIN_LOCAL or TRAIN_REMOTE state, the device shall respond to requests received from the link partner.

When the interface control state diagram is in any state other than TRAIN_LOCAL or TRAIN_REMOTE, the device shall not send any requests to the link partner and shall ignore requests from the link partner.

Proposed Response Response Status W PROPOSED ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 176A SC 176A.6 Page 40 of 137 5/31/2024 10:47:11 AM

C/ 176A SC 176A.6.2	P 557	L 53	# 500	C/ 176A	SC 176A.6.4	P 558	L 21	# 565
Slavick, Jeff	Broadcom			Law, David		HPE		
Comment Type T	Comment Status D		ILT Coefficients	Comment T	Гуре Е	Comment Status D		(editorial)
To support AUI or PMDs define a behavior in that s	only providing a subset of t scenario	he availabile PF	RESETs we should	howeve	er, 176A.10.3.1 '	variables coef_req, coef_sts, /ariables' uses all lowercase for	or the coef_st	s values (e.g., updated,
SuggestedRemedy						qualization limit) and coef_req percase for the coef_sts value		
	e AUI or PMD does not spe					ZATION LIMIT) and coef_req		
preset setting then no cha updated is provided.	ange is made to the existing	s settings and	ic_sts response of	Suggested	Remedy			
	Response Status W				0	riable values defined in 176A.	10.3.1 'Variat	oles' and used in
PROPOSED ACCEPT IN	,				.4 should match			
Implement the following v	vith editorial license.			Proposed F	Response	Response Status W		
specify coefficient values	A.6.2. add the following sta for a given preset setting th	nen no change i		-	OSED ACCEPT tent with editoria	IN PRINCIPLE.		
	sponse of updated is provid	ieu.		C/ 176A	SC 176A.6.4	P 558	L 46	# 568
C/ 176A SC 176A.6.4	P 558	L17	# 457	Law, David	I	HPE		
Opsasnick, Eugene	Broadcom			Comment 7	Гуре Е	Comment Status D		(editorial)
Comment Type T	Comment Status D		ILT Coefficients	Change	e 'coef_sts = CO	EFFICENT AT LIMIT' (COEFF	ICIENT miss	pelt) to read
	seudo-code in this subclaus				FICIENT AT LIN			,
	and the entire subcluse only placing the text of the entire			Suggested	Remedy			
subclause 136.8.11.4.4.		Subolause with		See co	mment.			
SuggestedRemedy				Proposed F	Response	Response Status W		
New text for this subclaus					OSED ACCEPT			
	g requests is specified by th	e coefficient up	date state diagram	Implem	ent with editoria	license and discretion.		
(Figure 136-9).				C/ 176A	SC 176A.6.4	P 558	L 54	# 448
	ATE_C(k) function shall be	consistent with	the algorithm specified	Simms, Wi	illiam	NVIDIA		
in 136.8.11.4.4 with one e	execption: qualizer coefficient indices,	k list is expan	ded by one from l_{-2} -1	Comment 7	Гуре Е	Comment Status D		(editorial)
0, 1} to {-3, -2, -1, 0, 1}.				It took	me longer than u	sual to realize the algorithm co	ontinues on p	age 559
Proposed Response	Response Status W			Suggested	Remedy			
PROPOSED REJECT.					•	ed' at the last line of page 55	58. Disregard	if this is inconsistent
Annov 176A is intended t	a ha tha analification for lin	k training for 20	0 Ch/a parlana DMDa	with IE	EE style		-	
and potentially higher sign	o be the specification for lir naling rate PMDs.	k training for 20	0 GD/S per lane PiviDS	Proposed F	Response	Response Status W		
	-			-	OSED ACCEPT	-		
as a complete specification	fferent from the earlier PMI on. Although referencing an eneficial for readers of the c.	older subclaus	e in some subclauses	Impler	nent with editoria	license and discretion.		
TYPE: TR/technical required	ER/editorial required GR/c	eneral required	T/technical F/editorial G/c	peneral		C/ 176/	۵	Page 41 of 137

I YPE: I R/technical required ER/editorial required GR/genera	al required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
SORT ORDER: Clause, Subclause, page, line	

C/ 176A SC 176A.6.4

C/ 176A S	SC 176A.8	P 559	L 45	# 202	C/ 176A	SC 176	4.9.2	P 562	L14	# 555
Ran, Adee		Cisco			Law, David			HPE		
Comment Typ	e TR	Comment Status D	I	LT Coefficients (Bucket)	Comment T	/pe T		Comment Status D		ILT (Bucket)
1, the time be less the This requi	e from the rec an 2 ms" rement was c	me lock bit in the status field ceipt of a new request to the defined in 802.3cd when train g the number of change requ	acknowledgment ing was limited ir	of that request shall n time (to 3 seconds) in	value, w tx_mode tx_mode	ith the mu e = data. S e, training	Itiplexe Subclau local_	reference model' shows the or select set to 0 when tx_m use 176A.10.2.1 'Variables', pattern and data. Figure 17 for when tx_mode = local_p	ode = training a however, define 6Aû5, therefore,	nd set to 1 when es three values for
order to pr		g the number of change requ	esis due to delay	eu responses.	SuggestedF					
The new t as it need	•	ne is not limited in time, and	a receiver can us	se as many requests	each int	erface.	to refle	ect the third value of tx_mod	e and the local	pattern generator for
la como r	ulti tockina i	mplementations, a hard 2 ms		he challenging to most	Proposed R	esponse		Response Status W		
To avoid r	eal-time requ time (and it d	irements, it would be sufficie loes not need to be normative to the protocol.	nt to have 2 ms	as the average	Impleme Add the	ent the foll local_pat	owing tern op	N PRINCIPLE. with editorial license. tion to the data selector. as an input to the data sele	ctor.	
SuggestedRei	nedy							·		" [554
Change to		me leak bit in the status field	of transmitted tra	ining frames is get to	C/ 176A	SC 176	4.9.2	P562	L 22	# 554
		me lock bit in the status field ceipt of a new request to the			Law, David	_		HPE		
		s recommended that the ave			Comment T			Comment Status D		ILT (Bucket)
Proposed Res	ponse ED ACCEPT	Response Status W						e Interface A 'Driver' block a o be pointing in the wrong d		ng from the Interface B
FROFUS	ED ACCEPT	•			SuggestedF	emedy				
C/ 176A S	SC 176A.9	P 560	L 19	# 197	Reverse	the direc	tion of	both arrows.		
Ran, Adee		Cisco			Proposed R	esponse		Response Status W		
Comment Typ	e ER	Comment Status D		(editorial)	PROPC	SED ACC	EPT.			
	ment by segn se of the who	nent training" seems to be an le thing.	introductory sub	clause that explains						
		this introduction is placed at seems too brief.	the beginning of	the annex. The current						
SuggestedRei	nedy									
Move 176	A.9 and its s	ubclauses into 176A.1 (with s	ome hierarchy) o	or after it.						
	the text as n nat "RTS" sta	ecessary to make it a good in nds for).	ntroduction to the	control function (e.g.,						
Proposed Res	ponse	Response Status W								
PROPOS		, IN PRINCIPLE. al license and discretion.								

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 176A SC 176A.9.2 Page 42 of 137 5/31/2024 10:47:11 AM

C/ 176A	SC 176A.10.1	P 562	L 53	# 553	C/ 176A	SC 176A.10).2.1 /	^o 563	L 44	# 566
Law, David		HPE			Law, David		HF	E		
diagram operation SuggestedF Sugges as the r Proposed R PROPO Implem Insert th	use 176A.10.1 'S ns follows the co on of timers. Remedy at that the text 'A new second sen Response DSED ACCEPT ent the following he text fom claus	Comment Status D State diagram conventions' si inventions of 21.5.', however Il timers operate in the mann tence of the second paragrap <i>Response Status</i> W IN PRINCIPLE. g with editorial license. se 136.8.11.7.5: "State diagra econd sentence of the secon	subclause 21.4 er described in oh of subclause am timers follow	5 does not address the 14.2.3.2.' be inserted 176A.10.1. w the conventions of	is disab transmi 'Per-int change the seg Suggested/ á Either á [a] Cha variable á or á [b] Cha both the all lane sentend	high the text ' high t	prrect, the first sente n the interface.' and es, functions and tim , or use 'all lanes of ariable description in . output on the lane p read ' output on the tt ' the transmitter' nd tx_mode variable isce.'; and [2] the text sable variable description	is disabled. he interfact nmediately is disabled. he interface	at tx_disable is defined und ist that the refe e' in the varial above. ' in the last se e is disabled.'. the interface.' s to read ' th on the lane is o	ler subclause 176A.10.2 erence to 'lane' is ble description to reflect entence of the tx_disable in the first sentence of he transmitter output on disabled.' in the last
					tx_disa Implem Move tł Change from: "E	DSED ACCEP ole is a per lar ent the followi be definition of the first sente Boolean variab	Response Statu T IN PRINCIPLE. ne variable. ng with editorial lice tx_disable to 176A. ence of the definition ble that controls the trai	nse. 10.3. 1 ransmitter's		

C/ 176A SC 176A.10.2.1 Page 43 of 137 5/31/2024 10:47:11 AM

C/ 176A	SC 176A.10.2.1	P56	3	L 44	# 567	
Law, David		HPE				
Comment Ty	pe T	Comment Status	D		ILT Diagrams (Bucket)	

Suggest a description of what happens when the tx_disable variableais set to false is added to the variable description.

SuggestedRemedy

[1] Add 'When it is false, tx_mode controls the content of the transmitter's output on the interface.' or 'When it is false, tx_mode controls the content of the transmitter's output on all lanes of the interface.', depending on the response to my other comment, to the end of the tx_disable variable description.

[2] Change the text '... of the interface.' in the first sentence of the tx_mode variable description to read '... of the interface when $tx_disable$ is false.'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license.

Add the following sentence at the end of the tx_disable definition: "When it is false, tx_mode controls the content of the transmitter's output on the lane."

Move the definition of tx_mode to 176A.10.3.1 and change the definition of tx_mode... from: "Enumerated variable that controls the content of the transmitter's output of the interface."

to: "Enumerated variable that controls the content of the transmitter's output of the lane when $tx_disable$ is false."

C/ 176A	SC 176A.10.3	P50	64	L16	# 571
Law, David		HPE			
Comment Typ	be T	Comment Status	D		ILT Diagrams (bucket)

176A.10.3 'Per-lane variables, functions, timers and counters' says 'The device implements one instance of each of the interface control state diagrams, and the set of associated ... for each of the n physical lanes on each of its interfaces (see 176A.9)'. I don't think this is correct as I believe that the interface control state diagram is one for each interface of a device (see 176A.10.2), and it is the frame lock and coefficient update state diagrams that are one for each lane of each interface of a device.

SuggestedRemedy

Change "The device implements one instance of each of the interface control state diagrams ...' to read 'The device implements one instance of each of the frame lock and coefficient update state diagrams ...'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The Interface control state diagram in Figure 176A-6 is implemented per lane, only the RTS update state diagram in Figure 176A-7 is implemented per interface.

It would be helpful to separate the state diagrams into the per-interface and per-lane subclauses.

Implement the following with editorial license.

Change the first sentence of 176A.10.2...

from: "A device implements one instance of each of the interface control state diagrams" to: "A device implements one instance of the RTS update state diagram".

Break subclause 176A.10.4 (State diagrams) into two subclauses, one in 176A.10.2 (Perinterface variables, functions and timers) and one in 176A.10.3 (Per-lane variables, functions, timers and counters).

Change the title of Figure 176A–6 from "Interface control state diagram" to Figure 176A–6 from "Training control state diagram".

C/ 176A SC 176A.10.3 Page 44 of 137 5/31/2024 10:47:11 AM

C/ 176A	SC 176A.10.3.	1 P56	55 L5	5 #	572
Law, David		HPE			
Comment Ty	pe T	Comment Status	D	ILT Dia	grams (bucket)

The variables local_tf_lock, remote_tf_lock, local_rx_ready and remote_rx_ready are all defined in 176A.10.3 'Per-lane variables, functions, timers and counters' and are related to a lane, yet they are used by figure 176A-6 'Interface control state diagram'. 176A.10.2 'Per-interface variables, functions and timers' says 'A device implements one instance of each of the interface control state diagrams independently for each of its interfaces (see 176A.9).'.

SuggestedRemedy

Perhaps figure 176A-6 'Interface control state diagram' should use a 'interface' version of each of these variables that are a logical AND of the respective lane variable in the case of a multi-lane interface.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the responses to comments #566, #567 and #571.

C/ 176A	SC 176A.10.	3.1 <i>P</i> 565	L 7	# 573
Law, David		HPE		
Comment Typ	e T	Comment Status D		ILT Diagrams (Bucket)

The description of the local_tf_lock variable in 176A.10.3.1 says that 'The value of this variable is encoded as the "training lock" bit in the status field of transmitted training frames.', however, there isn't a "training lock" bit defined for the training frames. Since 176A.4.3 'Receiver frame lock' says 'Receiver frame lock ... is not set to 1 until training and local_tf_lock are both true.' it seems that local_tf_lock is encoded in the 'Receiver frame lock' bit.

SuggestedRemedy

Change the text '... is encoded as the "training lock" bit ...' in the local_tf_lock variable description to read '.... is encoded in the "Receiver frame lock" bit ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

C/ 176A	SC 176A.10.3	.3 P56	6 L 21	#	569
Law, David		HPE			
Comment Ty	pe T	Comment Status	D		ILT Diagrams

176A.10.3.3 'Timers' is a subclause of 176A.10.3 'Per-lane variables, functions, timers and counters', yet the three times listed, quiet_timer, propagation_timer and recovery_timer are all used by the interface control state diagram. 176A.10.2 'Per-interface variables, functions and timers' says 'A device implements one instance of each of the interface control state diagrams, and the set of associated variables, functions, counters and timers defined in this subclause, independently for each of its interfaces(see 176A.9).' As a result, it seems these timers should be moved to 176A.10.2.3 'Timers' and the descriptions should be updated to reflect that they operate on a per-interface basis.

SuggestedRemedy

[1] Move the quiet_timer, propagation_timer and recovery_timer definitions to 176A.10.2.3 'Timers' and delete 176A.10.3.3 'Timers'.

[2] Change the text '... the interface control state diagram on a lane enters the ...' in the description of quiet_timer, propagation_timer and recovery_timer to read '... the interface control state diagram on an interface enters the ...'.

Proposed F	Response	Response Status W		
	OSED REJECT. e using the respo	nse to comment #572		
C/ 176A	SC 176A.10.4	P 566	L 46	# 458
Opsasnick,	Eugene	Broadcom		
Comment 7	Гуре Т	Comment Status D		ILT Diagrams

The state diagram shown in Figure176A-8 "Training frame lock state diagram" on page 570 and Figure 176A-9 "Coefficient update state diagram" are exactly the same as the state diagrams of the same names in Figure 136-8 and Figure 136-9. Only the reset signal is renamed from "mr_restart_training" to "mr_restart".

SuggestedRemedy

Remove Figure 176A-8 and Figure 176A-9.

Change "mr_restart" to "mr_restart_trainging" in subclause 176A.10.2.1 on page 564, line 21.

Change the text at the bottom of page 566 to refer to the equivilent state diagrams in clause 136 instead of the removed figures (with editorial license).

Any variables defined in subclause 176A.10.3.1 which are only used in the removed state diagrams can also be removed.

Proposed Response Response Status W

PROPOSED REJECT. Resolve using the response to comment #457

Cl	176A
SC	176A.10.4

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C/ 176A	SC 176A.10.4	P56	6 L 52	#	570
Law, David		HPE			
Comment Ty	pe T	Comment Status	D		ILT Diagrams

176A.10.2 'Per-interface variables, functions and timers' says 'A device implements one instance of each of the interface control state diagrams independently for each of its interfaces (see 176A.9).' and 176A.10.4 'State diagrams' says 'The interface control state diagram (Figure 176Aû6) defines the operation of the startup protocol for AUIs and PMDs'. 176A.10.4 'State diagrams', however, goes on to say, 'The interface control, frame lock and coefficient update state diagrams shall be implemented for each lane.'. This doesn't seem to be in alignment with the prior text and doesn't seem to be correct.

SuggestedRemedy

Change the last paragraph of 176A.10.4 to read 'The interface control and RTS update state diagrams shall be implemented for each interface of a device. The frame lock and coefficient update state diagrams shall be implemented for each lane of each interface of a device.'.

Proposed Response Response Status W

PROPOSED REJECT.

Resolve using the response to comment #572.

C/ 176A	SC 176A.10.4	P 566	L 54	# 542
Rechtman, Z	Zvi	Nvidia		
Comment Ty	rpe TR	Comment Status D		ILT Diagrams (Bucket)

The operation of precoding after the completion of the start-up protocol is missing

SuggestedRemedy

Add the following text:

"If the LINK_READY state is entered with local_tp_mode set to ôPAM4 with precodingö, then the PMA shall transmit all subsequent data on the corresponding lane with precoding (see

176.9.1.2).

If the LINK_READY state is entered with remote_tp_mode set to ôPAM4 with precodingö, then the PMA shall subsequently received data on the corresponding lane includes precoding (see 176.9.1.2)"

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license.

After the first paragraph of 176A.10, add the following text:

If the LINK_READY state in the Interface control state diagram (see Figure 176A-6) is entered with local_tp_mode set to "PAM4 with precoding", then the PMD or AUI shall cause the adjacent PMA to transmit all subsequent data on the corresponding lane with precoding (see 176.9.1.2).

If the LINK_READY state is entered with remote_tp_mode set to "PAM4 with precoding", then the PMD or AUI shall inform the adjacent PMA that all subsequently received data on the corresponding lane includes precoding (see 176.9.1.2).

Cl 176A	SC	176A.10.4	P56	3 L 20	# 551
Law, David			HPE		
Comment T	ype	т	Comment Status	כ	ILT Diagrams (Bucket)
			thing the transition c	ondition from the	state TRAIN_LOCAL to the
state TF	rain_	_REMOTE.			

SuggestedRemedy

Suggest that 'local_tf_lock<* local_rx_ready' should read 'local_tf_lock * local_rx_ready'.

Proposed Response Response Status W

PROPOSED ACCEPT.

C/ 176A SC 176A.10.4	P 568	L 20	# 552	C/ 176A	SC 176A.10.4	P 568	L 48	# 550	
_aw, David	HPE			Rechtman,	Zvi	Nvidia			
Comment Type T There should be an und	Comment Status D erscore between the timer n	ame and 'done	ILT Diagrams (Bucket)	Comment T		Comment Status D Figure 176Aû6ùInterface	control state diagr	ILT Diagrams	
SuggestedRemedy	timer done' should be chang Response Status W			The RE in ident betwee state in A poss	ECOVERY state tifying marginal p in TRAIN_LOCAI in scenarios of alter ible solution is to	coupled with the absence erformance cases. These _/TRAIN_REMOTE/SEGI ernating local_tf_lock. limit the number of RECI is to the RECOVERY sta	of timeouts, introc cases may lead t MENT_READY sta OVERY events by	luces a new challenge o repeated transitions te to/from RECOVERY	
				Suggested					
				Define	a new counter: ô	recovery_event_countö.		nents each time the	
				The ôre		gram: ountö should be initialized OVERY state, the ôrecov			
			The tra as follo Change	ws:	from the RECOVERY sta r doneö to ôrecovery_tim				
				Proposed F	Response	Response Status W			
				PROPOSED ACCEPT IN PRINCIPLE.					
				Depen	ding on impleme	has merit, but the sugges ntatation, other thresholds ecting interoperability.			
				Implem	nent the following	with editorial license.			
				"max_r transitio 6). A va	ecovery_events. ons into the REC	176A.10.3.1 as follows: Integer variable that cont OVERY state in the Inter is unlimited number of tra ent."	face control state of	liagram (Figure 176A-	
				"recove	ery_event_count.	176A.10.3.4 as follows: This counter increments ns into the RECOVERY s		rol state diagram (see	
				Initializ		nt_count" to 0 in the "SEN e increment the "recovery			
VPE· TR/technical required	ER/editorial required GR/	apperal require	d T/technical E/editorial G/a	eneral		CI	1764	Page 47 of 137	

 TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 C/

 COMMENT STATUS: D/dispatched A/accepted R/rejected
 RESPONSE STATUS: O/open W/written C/closed Z/withdrawn
 SC

 SORT ORDER: Clause, Subclause, page, line
 SC
 SC

C/ 176A SC 176A.10.4 Page 47 of 137 5/31/2024 10:47:11 AM

Modify the transition condition from the RECOVERY state to the FAIL state as follows... Change "recovery_timer done"

to "recovery_timer done + (max_recovery_events != 0)*(recovery_event_count >= max_recovery_events)".

CI	176A	SC 176A.10.4	

L17

Law, David

Р**569** НРЕ

Comment Type T Comment Status D

ILT Diagrams (Bucket)

556

The WAIT_ADJACENT to SWITCH_CLOCK transition condition uses the variable mr_training_enabled, however subclause 176A.10.2.1 'Variables' defines the variable mr_training_enable, not mr_training_enabled.

SuggestedRemedy

Change the transition condition ' (!mr_training_enabled + segment_ready) * ...' to read ' (!mr_training_enable + segment_ready) * ...'.

Proposed Response Response Status W

PROPOSED ACCEPT.

C/ 176A	SC 176A.10.4	P 570	L 9	# 557
Law, David		HPE		
Comment Ty	pe E	Comment Status D		(editorial)

Subclause 176A.10.1 'State diagram conventions' says that 'The notation used in the state diagrams follows the conventions of 21.5.'. Subclause 21.5.3 'State transitions' says 'The following terms are valid transition qualifiers:' and item d) says 'An unconditional transition: UCT'. As a result, it is not necessary to expand UCT on it's first use in Annex 176A.

SuggestedRemedy

Change the text 'UCT (unconditional transition)' to read 'UCT'.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.

C/ 176A	SC 176A.10.4	P57	71 L9	#	575
Law, David		HPE			
Comment Ty	pe T	Comment Status	D		ILT Diagrams

The UPDATE_IC function is called in the OUT_OF_SYNC state of the Figure 176Aû9 Coefficient update state diagram. The UPDATE_IC function uses the ic_req variable to set

the coefficients (see 176A.6.2), and the ic_req variable is derived from the 'initial condition request' bits from the control field of the received training frames (see 176A.10.3.1).

Since, however, the OUT_OF_SYNC state is entered during reset (reset or mr_restart set true), it would seem unlikely that training frames are being received. If that is the case, it isn't clear what the value of the ic_req variable is, and therefore what the coefficients should be set to.

á

176A.6.2 says that 'The transmitter equalizer is set to preset 1 upon entry to the QUIET state of the interface control state diagram.'. Since the QUIET state of the Interface control state diagram is also entered during reset, it seems the coefficients should be set to preset 1 when the Coefficient update state diagram is in the OUT_OF_SYNC state.

SuggestedRemedy

[1] Delete the first sentence of the ic_reg definition in 176A.10.3.1.

[2] Add the text 'If the Coefficient update state diagram is in the OUT_OF_SYNC state ic_req is set to preset 1. Otherwise, it is derived from the "initial condition request" bit of the control field of received training frames on the correspondent lane of the interface.' to the end of the ic_req definition in 176A.10.3.1.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The editorial team prepared a proposal in the comment resolution slide deck URL/brown_3dj_02_2406. For CRG discussion.

For CRG discussion.

C/ 176A	SC 176A	6 P 568	L 21	# 449
Simms, Wil	lliam	NVIDIA		
Comment T	ype ER	Comment Status D		(editorial)
Figure '	176A-6 has	an extraneous < in the nam	e 'local_tf_lock<	*1

SuggestedRemedy

change to 'local_tf_lock*'

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.

C/ 176A SC 176A-6 Page 48 of 137 5/31/2024 10:47:11 AM

C/ 176D SC 176	D.1 P595	L16	# 584	C/ 176D SC 176	6D.3.3	P 597	L 22	# 422
Ghiasi, Ali	Ghiasi Quar	ntum/Marvell		Li, Tobey		MediaTek		
Comment Type T C2C loss is TBD	Comment Status D		Channel ILdd (bucket)	51	'R suremen	Comment Status D t bandwidth is TBD		B-T filter BW
SuggestedRemedy				SuggestedRemedy				
Assuming 28 dB l	oudget and package A length ~3	00 mm and ~12	5 mm for package B	Replace TBD wit	h 62 GH	Z		
Proposed Response	Response Status W			Proposed Response		Response Status W		
PROPOSED REJ The comment add	ECT. Iresses an open TBD, but the su	ggested remedy	is unclear.	PROPOSED AC Resolve using th	-	I PRINCIPLE. se to comment #60.		
Also, the suggest	ed remedy assumes the budget i	is 28 dB, but cor	sensus on that has not	C/ 176D SC 176	6D.3.3	P 597	L33	# 398
been shown.	, ,			Wu, Mau-Lin		MediaTek		
C/ 176D SC 176	D.2 P 596	L 19	# 62	Comment Type T	R	Comment Status D		(bucket)
Dudek, Mike	Marvell			The value of '106	6.255 +/-	50 ppm' is not correct.		
Comment Type T	Comment Status D		(bucket)	SuggestedRemedy				
	ctrical specifications of C2C corr	nponents are not	()	Change '106.255	5' to '106	25'.		
	PMD's isn't helpful. What does	"not equivalent"	mean?. Which	Proposed Response		Response Status W		
corresponding PN	ID'S?			PROPOSED AC	CEPT IN	, I PRINCIPLE.		
SuggestedRemedy				Resolve using th	e respor	se to comment #361.		
Delete the note.	_			C/ 176D SC 176	6D.3.3	P 597	L33	# 361
Proposed Response	Response Status W			Healey, Adam		Broadcom Inc.		
	EPT IN PRINCIPLE. response to comment #64.			Comment Type T		Comment Status D		(bucket)
	•		" [===]	Туро.				(
C/ 176D SC 176		L 32	# 583	SuggestedRemedy				
Ghiasi, Ali		ntum/Marvell		Change "106.25	5" to "106	6.25".		
Comment Type T	Comment Status D		(bucket)	Proposed Response		Response Status W		
Functional block of	liagram shown for C2C indicate I	ball-ball specific	ations	PROPOSED AC				
SuggestedRemedy								
	hould be called C2C device and	change the TPC) to TP0d and TP5 to					
TP5d								
Proposed Response	Response Status W							

Cl 176D SC 176D.3.3

C/ 176D SC 176D.3.3 P597 L33	# 423	C/ 176D SC 176D.3.4.4 P603 L18 # 425
Li, Tobey MediaTek		Li, Tobey MediaTek
Comment Type TR Comment Status D	(bucket)	Comment Type TR Comment Status D B-T filter BV
Signaling rate of 106.255 🞆 50 ppm in Table 176Dû1 is incorrect		4th order Bessel-Thomson filter BW is TBD
SuggestedRemedy		SuggestedRemedy
Change "106.255 50 ppm" to "106.25 50 ppm"		Replace TBD with 62 GHz
Proposed Response Response Status W		Proposed Response Response Status W
PROPOSED ACCEPT IN PRINCIPLE.		PROPOSED ACCEPT IN PRINCIPLE.
Resolve using the response to comment #361.		Resolve using the response to comment #60.
CI 176D SC 176D.3.3 P598 L16	# 450	C/ 176D SC 176D.3.4.4 P603 L 30 # 426
Simms, William NVIDIA		Li, Tobey MediaTek
Comment Type E Comment Status D	(editorial)	Comment Type TR Comment Status D (bucket
Where does the value for SNDR of 32.5dB come from?		"Insertion loss at 26.5625 GHz"
SuggestedRemedy		Nyquest freeuncy in Table 176Dû4 is incorrect
No change suggested, looking for source material		SuggestedRemedy
Proposed Response Response Status W		Change "26.5625 GHz" to "53.125 GHz"
PROPOSED ACCEPT IN PRINCIPLE.		Proposed Response Response Status W
Implement with editorial license and discretion.		PROPOSED ACCEPT.
C/ 176D SC 176D.3.4.4 P602 L47	# 424	
Li, Tobey MediaTek		C/ 176D SC 176D.3.4.4 P603 L 31 # 451
Comment Type TR Comment Status D	ERL (bucket)	Simms, William NVIDIA
Reference to ERL methodology is missing		Comment Type TR Comment Status D (bucket
SuggestedRemedy		Moot point maybe given table is all TBD, but the frequency should be 53.125GHz
Add reference to 176D.4.3.		SuggestedRemedy
Proposed Response Response Status W		change to 53.125GHz
PROPOSED ACCEPT.		Proposed Response Response Status W
		PROPOSED ACCEPT IN PRINCIPLE.
		Resolve using the response to comment #426.

-									
C/ 176D	SC 176D.3.4.4	P603	L34	# 427	C/ 176D S	C 176D.4	P 604	L 27	# 429
Li, Tobey		MediaTek			Li, Tobey		MediaTek		
Comment Ty COM va	<i>ype</i> TR alues in Table 17	Comment Status D 6Dû4 are TBD		СОМ	Comment Type Table refer	e TR rence is miss	Comment Status D		Editorial (bucket
SuggestedR Replace	Remedy e TBD with 3 dB					nce of ERL to	o 176D.4.3. ntial-mode to common-mode	a ratura lago to 1	76D 4 4
	DSED ACCEPT II	Response Status W N PRINCIPLE. nse to comment #250.			Proposed Res		Response Status W		700.4.4.
C/ 176D	SC 176D.3.4.5	<i>P</i> 604	L1	# 428	C/ 176D S	C 176D.4.1	P604	L 50	# 141
Li, Tobey		MediaTek			Ghiasi, Ali		Ghiasi Quant	um/Marvell	
נ <i>Comment T</i> Referen	ype TR nce to test proced	Comment Status D dure is missing		Editorial (bucket)	Comment Type Missing TE		Comment Status D		COM R_d, R_0
Proposed R	erence to 176D.3 Response DSED ACCEPT. SC 176D.4	3.4.4 Response Status W P 604	L 24	# 430	Proposed Res	ms ms dB BW=0.5 ponse	5*106.25=58.4375 GHz Response Status W		
Li, Tobey		MediaTek					IN PRINCIPLE. onses to comments #396 and	d #35.	
Comment Ty Minimur	<i>ype</i> TR m COM is TBD	Comment Status D		СОМ	-	C 176D.4.1	P605	L 10	# 142
SuggestedR	Remedy				Ghiasi, Ali		Ghiasi Quant	um/Marvell	
Replace	e TBD with 3 dB i	in Table 176Dû5 and in line	38 of page 604		Comment Type		Comment Status D		COM TxFF
Proposed R	lesponse	Response Status W				r equalizer co	Demicients		
PROPO	SED ACCEPT II	N PRINCIPLE.			SuggestedRen				
Resolve	e using the respo	nse to comment #250.			C(0)=0.65 C(-1)= [-0. C(-2)=[0:	3:0.02:0] .02:0.14]	(FFE C(-3) - NA also goes positive to allow s	slowing driver for	reflection mitigation
					Proposed Resp	oonse	Response Status W		
							IN PRINCIPLE.		

0.4700 00.4		Dees	1.10	"	0/ 4705	00.		Deer	1.05	//
	76D.4.1	P605	L16	# 122	C/ 176D		176D.4.1	P605	L35	# 504
Sakai, Toshiaki		Socionext			Howard He	ck		Intel Corporati	on	
Comment Type	T Cor	nment Status D		COM pkg tau (bucket)	Comment 7	ype	т	Comment Status D		Multiple COM parameters
COM reference In "Table 176D 6.141e-4 ns/m (page8-9), the SuggestedRemedy Change t(tau) ns/mm. Or simply dele Proposed Respons PROPOSED A Resolve using Cl 176D SC 1 Sakai, Toshiaki Comment Type COM reference In "Table 176D 6.141e-4 ns/m (page8-9), the SuggestedRemedy Change t(tau) ns/mm. Or simply dele Proposed Respons PROPOSED A	e package para pù6" class A para m, but based or value is 6.141e value in Table ete this row, as se Res ACCEPT IN PRI the response to 76D.4.1 T Cor e package para pù6" class B pac m, but based or value is 6.141e value in Table ete this row, as se Res ACCEPT IN PRI	meter vlaue. (transmissickage model Transmission the adopted motion#'-3. The value should be 176D-6 (class A packathe t(tau) value in table bonse Status W NCIPLE. Do comment #118. P605 Socionext mment Status D meter vlaue. (transmissickage model Transmissickage mo	sion line para 10, Nov/2024, e 6.141e-3 ns ge) from 6.14 93A-3 is 6.14 93A-3 is 6.14 <i>L</i> 26 sion line parar 10, Nov/2024, e 6.141e-3 ns ge) from 6.14	meter tau) meter t(tau) value is llim_3dj_01a_2311.pdf /mm. 1e-4 ns/mm to 6.141e-3 41e-3 ns/mm. # 123 COM pkg tau (bucket) meter tau) neter t(tau) value is llim_3dj_01a_2311.pdf /mm. 1e-4 ns/mm to 6.141e-3	We nee 176D-6 Suggested/ Adopt t Table 1 $R_0 = \frac{1}{5}$ Table 1 $f_r = 0$ $0.02, R_1$ $d_w = 4$ $j W_min$ -4 0 0.5 -3 -0.15 -2 0 0.4 -1 -0.7 1 -0.35 2 -0.8 0.6 3 -4 -0.2 5 -8 -0.1 9 -28 -00 A preses support Proposed F PROPC The foll https:// The con propose This con comme The edi	d to fill and CC Remedy ne valu 76D-6: 50 ohm 76D-7: .75* f_ LM = (, N_fix 0 (j) W_ 0 0.85 5 0.15 0 5 0.05 0.05 0.05 0.05 0.05 0.05 0.05	I in values DM param v les propos s, R_d, = b, A_v = 0.95, eta_(:= 28, N_(max(j) 5 5 n is planne posed val se ACCEPT I presentatii ee802.org addresse: es and co : proposes dress subs eam prepa	for the TBDs AUI C2C device eters in Table 176D-7. ed below for AUI C2C: 50 ohms, 0.413 V, A_fe = 0.413 V, A_1 0 = 1.25e-8 V^2/GHz, M = 32 g = 0, N_f = NA, N_max = N/ d for the May 2024 interim ir	he = 0.608 \ A,, sigma_R h which we w force at the 01b_2405.p ere is no su rer values to	e parameters in Table /, SNR_Tx = 33 dB, A_dd J = 0.01. vill provide analysis to May 2024 interim meeting: df ficient justification for the gether, while other

C/ 176D SC 176D.4.1	P605	L35	# 431	C/ 176D SC 176D.4.4	1 P 605	L 52	# 143
_i, Tobey	MediaTek			Ghiasi, Ali	Ghiasi Qu	antum/Marvell	
Comment Type TR Commen	t Status D		R_0	Comment Type T	Comment Status D		Multiple COM parameters
Single-ended reference resistance l	R0 value in Table	e 176Dû6 is TBD		C2C should be aligned	d with C2M and addressing	g TBDs	
SuggestedRemedy Replace TBD with 50 Ohm				SuggestedRemedy SNRTx=33 dB			
Proposed Response Response PROPOSED ACCEPT IN PRINCIP Resolve using the response to com				Add=0.02 UI Sigma=0.01 UI RLM=0.95 Eta0=1.25E-8			
C/ 176D SC 176D.4.1	P605	L 50	# 432	Proposed Response	Response Status W		
Li, Tobey Comment Type TR Commen	MediaTek <i>t Status</i> D		COM f r	e ,	F IN PRINCIPLE. In was taken in the May 20	24 interim meet	ing:
Receiver 3 dB bandwidth fr value in			COM 1_1	Straw Poll #7 I would support putting	g the COM parameter value	es eta_0 and d_	w and
JuggestedRemedy				clides 2 1) into the DQ	02 2di draft chacification		
SuggestedRemedy Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP Resolve using the response to com				Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o	sensus for eta0=1e-8 for C or C2M and C2C, and add rg/3/dj/public/24_05/lusted	editor's note pe I_3dj_07_2405.p multiple other c	odf. omments. This comment is
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add org/3/dj/public/24_05/lusted changes are addressed by resolved by the responses	editor's note pe I_3dj_07_2405.p multiple other c	odf. omments. This comment is
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o expected to be partly i	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add rrg/3/dj/public/24_05/lusted changes are addressed by resolved by the responses P605	editor's note pe I_3dj_07_2405.p multiple other c to these other c	odf. omments. This comment is omments.
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o expected to be partly of C/ 176D SC 176D.4.	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add rrg/3/dj/public/24_05/lusted changes are addressed by resolved by the responses P605	editor's note pe I_3dj_07_2405.p multiple other c to these other c L 52	odf. omments. This comment is omments.
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o expected to be partly f C/ 176D SC 176D.4.4 Ghiasi, Ali Comment Type T	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add rg/3/dj/public/24_05/lusted changes are addressed by resolved by the responses 1 P605 Ghiasi Qu	editor's note pe I_3dj_07_2405.p multiple other c to these other c <i>L</i> 52 antum/Marvell	odf. omments. This comment is omments. # <u>144</u> <i>COM ref R</i>
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o expected to be partly f C/ 176D SC 176D.4.4 Ghiasi, Ali Comment Type T	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add rg/3/dj/public/24_05/lusted changes are addressed by resolved by the responses 1 P605 Ghiasi Qu <i>Comment Status</i> D	editor's note pe I_3dj_07_2405.p multiple other c to these other c <i>L</i> 52 antum/Marvell	odf. omments. This comment is omments. # 144 COM ref F
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o expected to be partly f <i>Cl</i> 176D <i>SC</i> 176D.4. Ghiasi, Ali <i>Comment Type</i> T C2C reference equaliz	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add rg/3/dj/public/24_05/lusted changes are addressed by resolved by the responses 1 <i>P</i> 605 Ghiasi Qu <i>Comment Status</i> D zer should be aligned with the tap FFE with 1T DFE ps = 6	editor's note pe I_3dj_07_2405.p multiple other c to these other c <i>L</i> 52 antum/Marvell	odf. omments. This comment is omments. # <u>144</u> <i>COM ref R</i>
Replace TBD with 0.58*fb Proposed Response Response PROPOSED ACCEPT IN PRINCIP	LE.			Results (all): Y: 67, N: The results show cons Change eta0 to 1e-8 f https://www.ieee802.o The other suggested o expected to be partly f <i>Cl</i> 176D <i>SC</i> 176D.4. Ghiasi, Ali <i>Comment Type</i> T C2C reference equaliz <i>SuggestedRemedy</i> Propose to use fix 25 Max # of pre-cursor ta	0, A: 23 sensus for eta0=1e-8 for C or C2M and C2C, and add rg/3/dj/public/24_05/lusted changes are addressed by resolved by the responses 1 <i>P</i> 605 Ghiasi Qu <i>Comment Status</i> D zer should be aligned with the tap FFE with 1T DFE ps = 6	editor's note pe I_3dj_07_2405.p multiple other c to these other c <i>L</i> 52 antum/Marvell	odf. omments. This comment is omments. # <u>144</u> <i>COM ref R</i>

C/ 176D	SC 176D.4.1	P606	L 33	# 433	C/ 176D	SC 176D.4	.1	P 607	L 5	# 436
Li, Tobey		MediaTek			Li, Tobey			MediaTek		
Comment 7	51	Comment Status D		COM CTLE parameters	Comment	21		ent Status D		R_LM
Zero 2 178û13		ole 3 frequency of Continuous	s time filter a	are inconsistent with Table	Level s	eparation mis	match ratio R	LM in Table 176D	0û7 is TBD	
					Suggested	Remedy				
Suggestedl	<i>Remeay</i> :e zero 2 frequen	ov with th/20			Replac	e TBD with 0.	95			
		cy from "fb" to "fb/80"			Proposed I	Response	Respons	se Status W		
Proposed F	Response	Response Status W				OSED ACCEI				
PROPO	OSED ACCEPT	, IN PRINCIPLE.			Resolv	e using the re	sponse to cor	mment #273.		
		nents on this topic. The edito			C/ 176D	SC 176D.4	.1	P 607	L 8	# 437
	ent resolution sild	de deck ran_3dj_01_2406co	mment_resc	biution_electrical.	Li, Tobey			MediaTek		
		Dees			Comment	Type TR	Comme	ent Status D		COM methodology
C/ 176D	SC 176D.4.1	P 606	L 40	# 434	Numbe	er of samples	per unit interv	al in Table 176Dû	7 is TBD	
Li, Tobey		MediaTek			Suggested	Remedy				
Comment 7	51	Comment Status D		COM voltage parameters	Replac	e TBD with 32	2			
Transm	nitter differential	peak output in Table 176Dû7	is TBD		Proposed I	Response	Respons	se Status W		
Suggestedl	-				PROP	OSED ACCEI	, T IN PRINCI	PLE.		
	e Av with 0.413				Resolv	e using the re	sponse to cor	mment #360.		
	e Ane with 0.608				C/ 176D	SC 176D.4	.2	P 607	L31	# 63
Proposed F	Response	Response Status W			Dudek, Mił	ke		Marvell		
	OSED ACCEPT				Comment	Туре т	Comme	ent Status D		Channel ILdd (bucket)
Resolv	e using the resp	onse to comment #38.						ess than desirable	and the equat	tion is TBD. We
C/ 176D	SC 176D.4.1	P606	L 49	# 435		n't specify the	loss at this ti	me		
Li, Tobey		MediaTek			Suggested					
Comment 7	Type TR	Comment Status D		COM T_r	Chang	e 20dB to TBI).			
Transm	nitter transition ti	me Tr value in Table 176Dû7	is TBD		Proposed I	Response	Respons	se Status W		
Suggestedl	Remedy								oo hore in unin	atondad
	e TBD with Tr =	4 ps						, and its appearan g/3/dj/public/24 (ntended. a_2401.pdf states
Proposed F	Response	Response Status W			explicit	ly that the inte	rconnect leng	oth is TBD.		
PROPO	OSED ACCEPT	IN PRINCIPLE.			Implem	nent suggeste	d remedy with	n editorial license.		
Resolv	e using the resp	onse to comment #39.								

C/ 176E SC 176E.2	P 615	L 20	# 64	C/ 176E	SC 176E.2	P 615	L 33	# 130
Dudek, Mike	Marvell			Ghiasi, Ali		Ghiasi Qua	ntum/Marvell	
Comment Type T	Comment Status D		(bucket)	Comment	Туре Т	Comment Status D		Channel ILdd
	al specifications of C2C comp			Loss b	udgets are TBD			
the corresponding PME	D's. Specifically the test poin n't helpful. What does "not e	ts at which mod	ule compliance is	Suggested	Remedy			
	Although the module test p			See Gl	hiasi C2M May-2	24 Contribution for backgrou	und on the numbe	ers
the same as Clause 17				IIDD=2		- ID		
SuggestedRemedy					ctor with one via e Ildd = 3.6 dB	i = 3 dB		
Delete the note.					dd=21.4 dB			
Proposed Response	Response Status W			Proposed I	Response	Response Status W		
PROPOSED ACCEPT	IN PRINCIPLE.			PROP	OSED REJECT.			
	Ds are noted in the third para		2, which states that a			st Figure 176E-2.	- I. Como de la Ma	0004 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	ctionally equivalent to a PMD the paragraph about the electric		stics, and highlights the			tion was reviewed by the tag g/3/dj/public/24_05/ghiasi_3		
	tween a C2M component and					es several open TBDs and		
point difference for the			and an Complex		nsus is not obvio			and the analysis of the state
differences is useful for	C2M component's similarity to r readers	o a PMD is new	and noting the			pared a detailed response in ment_resolution_electrical.		esolution slide deck
	responding PMDs" can be cl	arified.			G discussion.	intent_resolution_electrical.		
	corresponding PMDs" to "the	e corresponding	PMDs defined in					
Clause 179".	a alastriaal apositioations of (ore not equivalent to					
	e electrical specifications of (ding PMDs" to "The electrical							
	f the corresponding PMDs de							
CI 176E SC 176E.2	P615	L 23	# 129					
Ghiasi, Ali	Ghiasi Quant	um/Marvell						
Comment Type T	Comment Status D		Channel ILdd (bucket)					
Figure depicts loss sho	ould be bump-bump							
SuggestedRemedy								
	ssociated ILdd bump-bump b							
To make it more clear l Module C2M Device	Host C2M Component should	be changed to	Host C2M Device and					
Proposed Response	Response Status W							
PROPOSED ACCEPT								
	s currently TBD, but it is expe	ected that it will I	be inclusive of					
packages.								
	ed remedy does not significar the diagram with Figure 179-							
	and TP5d are shown to inclu							
In figure 176E-2, chang	ge "Host ILdd" to "Host packa							
to "Module package an	id PCB ILdd".							
TYPE: TR/technical require	ed ER/editorial required GR/	deneral required	T/technical E/editorial C/c	eneral			176E	Page 55 of 137
•	spatched A/accepted R/reje		-	•	Z/withdrawn		176E.2	5/31/2024 10:47:1
					_,	88		0,01,2021 10.41.1

SORT ORDER: Clause, Subclause, page, line

27 5/31/2024 10:47:11 AM

C/ 176E SC 17	E.3.3 P617	L10	# 186	C/ 176E	SC 176E.3.3	P 617	L13	# 131
Ran, Adee	Cisco			Ghiasi, Ali		Ghiasi Quant	um/Marvell	
Host output chan settings that car	R Comment Status D acteristics need to be defined with result from training. e entire subclause 176E.3.3.	n consideration of	C2M output the variable output	Suggested	W is TBD Remedy	Comment Status D	current OCM coo	<i>B-T filter BV</i> de we use Butterworth.
SuggestedRemedy Define the outpu specifications in Use a table simi insertion loss bu	t characteristics using a methodo 179.9.4. ar to Table 179-7 but with differer			should Proposed F PROPC Resolve	the COM for C2 Response DSED ACCEPT e using the resp	M be changed to BT4 fitler? Response Status W		,
Proposed Response PROPOSED AC The following pri- meeting: https://www.ieee The presentation (subject of comr The following str Straw Poll #3 I would support specifications ou Results (all): Y: However, straw Y: 12, N: 11, NI The results of th but consensus is Based on these A: Implement th the exception of B: Implement th jitter leave the lin C: Implement th (including jitter v	Response Status W CEPT IN PRINCIPLE. esentation has been reviewed by the B02.org/3/dj/public/24_05/ran_3dj addressed host output (subject of ent #187). aw poll was taken in the May 202 the approach for the AUI-C2M host tlined in ran_3dj_02_2405 88, N: 9, NMI: 9, A: 42 poll #8 related to the jitter measur 11: 22, A: 36 e straw poll show support for the p not obvious. wo straw polls, possible approach proposed changes on slides 6, 8 het jitter method and parameters. proposed changes on slides 6, 8 hit values TBD.	_02_2405.pdf. of this comment) a 4 interim meeting: at and module outp ement had less de proposed jitter me hes are: 3, 10, and 11 of ra 3, 10, and 11 of ra 3, 10, and 11 of ra	and module output put ecisive results: asurement changes, n_3dj_02_2405, with n_3dj_02_2405, but for	Suggestedi See Gr VEC=1 VEO=8 Proposed F PROPO The co The foll https:// The pro results,	ight and VEC ar Remedy hiasi C2M May-2 0.7 dB a mV Response DSED REJECT. mment addresse lowing presentation www.ieee802.or esentation includ	4 Contribution for backgrour <i>Response Status</i> W as open TBDs. ion was reviewed by the tas g/3/dj/public/24_05/ghiasi_3 les COM analysis of selecter stify using VEC/EH as output	d on the number k force at the Ma dj_02a_2405.pdf d channels, but s	y 2024 interim meeting: hows no VEC or EH

C/ 176E SC 176E.3.3

C/ 176E	SC 176	E.3.3.3		P 620	L 32	# 220	C/ 176E	SC	176E.3.4.2	2	P 622	L 49	# 221
Noujeim, L	eesa		G	oogle			Noujeim, L	eesa			Google		
Comment	Туре Т		Comment Sta	tus D		ERL Tfx	Comment	Туре	т	Comment S	tatus D		ERL Tf
connec	ction (matin	g interfa		ent is to remo	to 0.2ns from th ove the test fixtu	ne host-facing re discontinuities from	connec	ction (r	mating inte		tent is to re	se to 0.2ns from t move the test fixtu	he host-facing ure discontinuities from
Suggested	Remedy						Suggested	Reme	dy				
test fix		acing co	nnection minu		en the test fixtur s needed to rem	e connector and the ove test-fixture	test fix	ture ho	ost -facing			veen the test fixtu as needed to rem	re connector and the nove test-fixture
Proposed I	Response		Response Stat	tus W			Proposed I	Respo	nse	Response St	atus W		
-			PRINCIPLE.	#227.			-			IN PRINCIPLE			
C/ 176E	SC 176	E.3.4		P 621	L13	# 187	C/ 176E	SC	176E.3.5		P 621	L 7	# 133
Ran, Adee			C	isco			Ghiasi, Ali				Ghiasi Quar	ntum/Marvell	
Comment	Туре ТГ	2	Comment Sta	tus D		C2M output	Comment	Туре	т	Comment S	tatus D		B-T filter BV
				e defined wit	h consideration	of the variable output	BW is	TBD					
setting	s that can i	esuit fro	om training.				Suggested	Reme	dy				
This wi	ill affect the	entire s	subclause 176	Ξ.3.4.			propos	se to us	se 0.55*Ba	udrate=58.437	5 GHz		
Suggested	Remedy						Proposed I	Respo	nse	Response St	atus W		
	the output cations in 1		eristics using a	i methodolog	gy similar to that	of transmitter				IN PRINCIPLE			
	table simila ed for the r			ith different v	values due to the	e lower insertion loss							
A detai	iled propos	al will be	e provided.										
Proposed I	Response		Response Stat	tus W									
			PRINCIPLE.	t #186 (whicl	h addresses hos	st characteristics).							

C/ 176E SC 176E.3.5 Page 57 of 137 5/31/2024 10:47:11 AM

C/ 176E SO	C 176E.3.5	P 624	L 3	# 188	C/ 176E	SC 1	176E.3.6	P 628	L 26	# 189
Ran, Adee		Cisco			Ran, Adee			Cisco		
Comment Type	TR	Comment Status D		C2M input	Comment 7	Гуре	TR	Comment Status D		C2M input
Host input of	characteristi	cs need to be defined with co	onsideration of th	e availability of training.	Module training		characteri	stics need to be defined w	ith consideration o	of the availability of
This will aff	ect the entire	e subclause 176E.3.5.			T I. 1		u de la cardia			
uggestedRem	edy							e subclause 176E.3.6.		
		teristics using a methodolog			Suggested	-	•			<i>.</i> .
specificatio	ns in 179.9.	5, with the required changes	due to the lack of	if a cable assembly.				teristics using a methodol 5, with the required chang		
		able 179-10 but with addition voltage tolerance.	nal rows for DC c	ommon-mode voltage				ead of HCB.		
A detailed p	proposal will	be provided.						able 179-10 but with addit non-mode voltage tolerand		common-mode voltage
roposed Resp		Response Status W			A detai	led pro	posal will	be provided.		
		IN PRINCIPLE. ion has been reviewed by the	e task force:		Proposed F	Respon	se	Response Status W		
		g/3/dj/public/24_05/ran_3dj_(PROPO	DSED A	ACCEPT	IN PRINCIPLE.		
The followir Straw Poll #		was taken in the May 2024	interim meeting:		Resolve	e using	the resp	onse to comment #188 (w	hich addresses ho	st characteristics).
		roach for the AUI-C2M host	and module inpu	t	C/ 176E	SC 1	176E.4.1	P 632	L 6	# 134
		n ran_3dj_01_2405			Ghiasi, Ali			Ghiasi Qua	intum/Marvell	
		5, NMI: 6, A: 39 II, a possible approach is:			Comment 7	Гуре	т	Comment Status D		(bucket
Implement	the propose	d changes on slides 6-9 of ra	an_3dj_01_2405	with editorial license.	Loss is	TBD				
For CRG di	scussion.				Suggestedl	Remed	ly			
								4 Contribution for backgro oss at Nyquist frequency (
					Proposed F	Respon	se	Response Status W		
					PROPO	DSED F	REJECT.			
						d, the t	text can b	BD because equation 176 e changed accordingly, bu		
								ion was reviewed by the ta g/3/dj/public/24_05/ghiasi_		ay 2024 interim meeting:

The presentation does not include a proposa equation 176E-3.

[Editor's note: changed page from 621 to 632]

Lusted, Kent Intel Corporation Comment Type TR Comment Status D Multiple COM para The COM parameter values for the AUI C2M electrical interfaces in Annex 176E are different from the AUI C2C SuggestedRemedy Create a new COM parameter values table in 176E.4.2 and use the COM parameter values table in 176E.4.2 and use the COM parameter values table in 176E.4.2 and use the COM parameter values for mhttps://www.ieee802.org/3/dj/public/24_03/lit_3dj_01a_2403.pdf slide 6 and 11, vare: f_r = 0.58 c(-3) = 0 c(-3) = 0 c(-2) = 0 min, 0.12 max c(-1) = -0.4 min, 0 max c(0) = 0.54 c(1) = 0 A_v = 0.413 A_fe = 0.413 A_ne = 0.45
The COM parameter values for the AUI C2M electrical interfaces in Annex 176E are different from the AUI C2C SuggestedRemedy Create a new COM parameter values table in 176E.4.2 and use the COM parameter values table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 and use table in 176E.4.2 a
different from the AUI C2C SuggestedRemedy Create a new COM parameter values table in 176E.4.2 and use the COM parameter v from https://www.ieee802.org/3/dj/public/24_03/lit_3dj_01a_2403.pdf slide 6 and 11, v are: $f_r = 0.58$ c(-3) = 0 c(-2) = 0 min, 0.12 max c(-1) = -0.4 min, 0 max c(0) = 0.54 c(1) = 0 $A_v = 0.413$ $A_f = = 0.413$ $A_n = = 0.45$
Create a new COM parameter values table in 176E.4.2 and use the COM parameter of from https://www.ieee802.org/3/dj/public/24_03/lit_3dj_01a_2403.pdf slide 6 and 11, ware: $f_r = 0.58$ $c(-3) = 0$ $c(-2) = 0 \text{ min, } 0.12 \text{ max}$ $c(-1) = -0.4 \text{ min, } 0 \text{ max}$ $c(0) = 0.54$ $c(1) = 0$ $A_v = 0.413$ $A_r fe = 0.413$ $A_n e = 0.45$
from https://www.ieee802.org/3/dj/public/24_03/lit_3dj_01a_2403.pdf slide 6 and 11, v are: $f_r = 0.58$ $c(-3) = 0$ $c(-2) = 0 \text{ min, } 0.12 \text{ max}$ $c(-1) = -0.4 \text{ min, } 0 \text{ max}$ $c(0) = 0.54$ $c(1) = 0$ $A_v = 0.413$ $A_r fe = 0.413$ $A_n e = 0.45$
eta_0 = 1.25e-8 SNR_TX = 33 sigma_RJ = 0.01 A_DD = 0.02 R_LM = 0.95 d_w = 5 Nfix = 10 N_g = 1 N_f = 4 N_max = 60 w_max(1) = 1 w_min(1) = 0 b_max(1) = 0.75 b_min(1) = 0 additionally, set MLSE = 0 (not enabled) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. [Page/Line should be 632/48]] The comment raises a valid concern and the suggested remedy may be reasonable, to consensus is not obvious. Note that although C2M has no channel that needs to be qualified with COM, COM parameters for receiver and transmitter are required for input test calibration. This comment proposes a large set of COM parameter values together, while other comments address subsets of these parameters.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/generalC/176EPage 59 of 137COMMENT STATUS: D/dispatched A/accepted R/rejectedRESPONSE STATUS: O/open W/written C/closed Z/withdrawnSC176E5/31/2024 10:47:11 AMSORT ORDER: Clause, Subclause, page, line

C/ 176E	SC 176E.5	P633	L12	# 203
Ran, Adee		Cisco		
Comment T	ype TR	Comment Status D		C2M outpu
result fr	om training. Eye	ogy for C2M should conside opening parameters with sp smitter quality anymore.		
		nodology of CR transmitter, with training-independent signation		
SuggestedF	Remedy			
	ne measurement 176E can refer to	methodology section into an D.	nother annex tha	t both Clause 179 and
A detail	ed proposal will	be provided.		
Proposed R	esponse	Response Status W		
	SED ACCEPT I e using the respo	N PRINCIPLE.		
C/ 176E	SC 176E.5.2	P633	L33	# 522
Dawe, Piers	3	Nvidia		
Comment T	ype T	Comment Status D		C2M outpu
decisior	n-feedback equa	lizer? The table mentions "f	eed-forward coe	fficient"
SuggestedF	Remedy			
Update	this text			
Proposed R	esponse	Response Status W		
PROPC	SED ACCEPT I	N PRINCIPLE.		
Comme		h #189 suggest using the CI		
		based on resolution of these	comments, the	reference receiver
	av he replaced h	v a COM parameters table		
table ma		by a COM parameters table. er resolution of #186-#189.		

C/ 176E	SC	176E.5.2	P	533	L 39	# 135
Ghiasi, Ali			Ghia	si Quan	tum/Marvell	
Comment	Гуре	т	Comment Status	5 D		(bucket)
Eye op measu	•		eceiver parameters	s will be	different between	TP1d and TP4a
Suggested	Reme	dy				
- short - long t recom	trace race nenda	ition is to m	utput of the modul easure at the ASIC nd 2 with Package	ball oth		nthetic need at least 2 test
Proposed I		0	Response Status			
		REJECT. ed remedy o	loes not propose a	n action	able (within the di	raft) remedy.
C/ 176E	SC	176E.5.2	P	633	L 39	# 365
Healey, Ac	lam		Broa	dcom In	с.	
Comment	Гуре	т	Comment Status	D		C2M output
Many o diagrai metho	of the p n mea d is ad	barameters surement. I opted, but u	' suggests that is s in the table are no t is understood that until this decision is never need to be o	t relevan at this ma s made t	t to a reference re ay become moot i	f a different test
Suggested	Reme	dv				

Remove parameters "maximum start frequency", "maximum frequency step", all "transmitter" parameters including "number of signal levels" and "level separation mismatch ratio", "number of samples per unit interval", and "target detector error ratio". It is also questionable whether device termination and package model parameters are needed (they were not used in Annex 120G).

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Comments #186 through #189 suggest using the CR methodology for transmitter and receiver specifications. based on resolution of these comments, the reference receiver table may be replaced by a COM parameters table. For CRG discussion after resolution of #186-#189.

C/ 176E SC 176E.5.2 Page 60 of 137 5/31/2024 10:47:11 AM

C/ 176E	SC 176E.5.2	P633	L 47	# 136	C/ 176E SC 176	6E.5.2	P 634	L 6	# 439
Ghiasi, Ali		Ghiasi Quante	um/Marvell		Li, Tobey		MediaTek		
Comment Typ	pe T	Comment Status D		R_0	Comment Type T	R Comment	Status D		COM f_
		ement should be done witho	out device model	with just 50 scope	Receiver 3 dB ba	andwidth fr value in T	Table 176Eû7 is	s TBD	
terminatio					SuggestedRemedy				
	•				Replace TBD with	h 0.58*fb			
Device me Single end		termination - NA			Proposed Response	Response S	Status W		
Single en	ded reference r	esistance - 50 ohms				CEPT IN PRINCIPLI			
Proposed Res	sponse	Response Status W			Resolve using the	e response to comm	ient #36.		
	SED ACCEPT IN	-			C/ 176E SC 176	SE.5.2	P 634	L 8	# 65
Resolve u	using the respoi	nse to comment #35.			Dudek, Mike		Marvell		
/ 176E	SC 176E.5.2	P 633	L 52	# 438	Comment Type T	Comment	Status D		C2M outpu
i, Tobey		MediaTek			There shouldn't b	be any Tx parameter	s in a specifica	tion for a refere	nce receiver.
omment Typ	be TR	Comment Status D		R_0	SuggestedRemedy				
Single-en	nded reference r	esistance R0 value in Table	e 176Eû7 is TBD						qualizer coefficients,
	madu				transmitter differe	ential peak output vo	ltage, transitio	n time, transmitt	er signal to noise ratio,
uggesteake	ineuy				RIM		0		0
00	TBD with 50 Oh	m			RLM, Proposed Response				C .
Replace T	TBD with 50 Oh	m Response Status W			Proposed Response	Response S	Status W		
Proposed Res	TBD with 50 Oh sponse SED ACCEPT IN	Response Status WN PRINCIPLE.			Proposed Response PROPOSED ACC Comments #186	Response S CEPT IN PRINCIPLI through #189 sugge	Status W E. est using the Cl		
Replace T Proposed Res PROPOS	TBD with 50 Oh sponse SED ACCEPT IN	Response Status W			Proposed Response PROPOSED ACC Comments #186 receiver specifica	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso	Status W E. est using the Cl olution of these		
Replace T Proposed Res PROPOS Resolve u	TBD with 50 Oh sponse SED ACCEPT IN	Response Status WN PRINCIPLE.	L5	# 137	Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl	Response S CEPT IN PRINCIPLI through #189 sugge	Status W E. est using the CI olution of these ameters table.		
Replace T proposed Res PROPOS Resolve u	TBD with 50 Oh sponse SED ACCEPT IN using the respon	Response Status W N PRINCIPLE. nse to comment #35.	-	# 137	Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso laced by a COM par ion after resolution o	Status W E. est using the CI olution of these ameters table. f #186-#189.	comments, the	reference receiver
Replace T roposed Res PROPOS Resolve u / 176E	TBD with 50 Oh sponse SED ACCEPT IN using the respon SC 176E.5.2	Response Status W N PRINCIPLE. hse to comment #35. P634	-	# 137 COM R_d, f_r	Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso laced by a COM par ion after resolution o	Status W E. est using the Cl olution of these ameters table. f #186-#189. P634	comments, the	
Replace T roposed Res PROPOS Resolve u / 176E	TBD with 50 Oh sponse SED ACCEPT IN using the respon SC 176E.5.2 De T	Response Status W N PRINCIPLE. Inse to comment #35. P634 Ghiasi Quantu	um/Marvell		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi C/ 176E SC 176 Ghiasi, Ali	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso laced by a COM par ion after resolution o SE.5.2	Status W E. sst using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant	comments, the	# reference receiver # 138
Replace T roposed Res PROPOS Resolve u / 176E shiasi, Ali omment Typ Single end	TBD with 50 Oh sponse SED ACCEPT IN using the respon SC 176E.5.2 De T ided receive ter	Response Status W N PRINCIPLE. Inse to comment #35. P634 Ghiasi Quantu Comment Status D	um/Marvell		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso laced by a COM par ion after resolution o SE.5.2 Comment	Status W E. sst using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant	comments, the	# reference receiver # 138
Replace T roposed Res PROPOS Resolve u 7 176E Shiasi, Ali omment Typ Single end uggestedRea Single end	TBD with 50 Oh sponse SED ACCEPT IN using the respon SC 176E.5.2 De T ided receive term smedy ided receive term	Response Status W N PRINCIPLE. Inse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E	um/Marvell BW		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi C/ 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso laced by a COM par ion after resolution o SE.5.2 Comment	Status W E. sst using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant	comments, the	# reference receiver # 138
Replace T roposed Res PROPOS Resolve u 1 176E Shiasi, Ali comment Typ Single end Single end Receive 3	TBD with 50 Oh sponse SED ACCEPT IN using the respon- SC 176E.5.2 De T ided receive term anded receive term aded receive term 3 dB BW=0.55*	Response Status W N PRINCIPLE. hse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E mination is the 50 ohm scop 106.25=58.4375 GHz	um/Marvell BW		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa SuggestedRemedy	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on resu laced by a COM par ion after resolution o SE.5.2 Comment alizer coefficients	Status W E. est using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant Status D	comments, the	# reference receiver # 138
Replace T roposed Res PROPOS Resolve u I 176E S Shiasi, Ali comment Typ Single end Single end Receive 3 roposed Res	TBD with 50 Oh sponse SED ACCEPT IN using the respon- SC 176E.5.2 De T aded receive term amedy aded receive term aded receive term ad BBW=0.55* sponse	Response Status W N PRINCIPLE. hse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E mination is the 50 ohm scop 106.25=58.4375 GHz Response Status W	um/Marvell BW		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa SuggestedRemedy	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on reso laced by a COM par ion after resolution o SE.5.2 Comment	Status W E. est using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant Status D	comments, the	# reference receiver
Replace T roposed Res PROPOS Resolve u 176E Shiasi, Ali comment Typ Single end Single end Receive 3 proposed Res PROPOS	TBD with 50 Oh sponse SED ACCEPT IN using the respon- SC 176E.5.2 De T aded receive term amedy aded receive term aded receive term as dB BW=0.55* sponse SED ACCEPT IN	Response Status W N PRINCIPLE. hse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E mination is the 50 ohm scop 106.25=58.4375 GHz Response Status W N PRINCIPLE.	um/Marvell 3W be termination		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa SuggestedRemedy Given little benefic C(0)=0.65 C(-1)= [-0.3:0.02	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on resu- laced by a COM par- ion after resolution on SE.5.2 Comment a lizer coefficients it of TX FFE C(-3) - 1 2:0]	Status W E. est using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant Status D	comments, the	# reference receiver # 138
Replace T roposed Res PROPOS Resolve u 1 176E Shiasi, Ali comment Typ Single end Single end Receive 3 roposed Res PROPOS	TBD with 50 Oh sponse SED ACCEPT IN using the respon- SC 176E.5.2 De T aded receive term amedy aded receive term aded receive term as dB BW=0.55* sponse SED ACCEPT IN	Response Status W N PRINCIPLE. hse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E mination is the 50 ohm scop 106.25=58.4375 GHz Response Status W	um/Marvell 3W be termination		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa SuggestedRemedy Given little benefit C(0)=0.65 C(-1)= [-0.3:0.02 C(-2)=[0:.02:0.7]	Response S CEPT IN PRINCIPLI through #189 sugge laced by a COM par ion after resolution o SE.5.2 Comment alizer coefficients it of TX FFE C(-3) -	Status W E. est using the CI olution of these ameters table. f #186-#189. P634 Ghiasi Quant Status D	e comments, the	reference receiver
Replace T Proposed Res PROPOS Resolve u 27 176E Shiasi, Ali comment Typ Single end Single end Receive 3 Proposed Res PROPOS	TBD with 50 Oh sponse SED ACCEPT IN using the respon- SC 176E.5.2 De T aded receive term amedy aded receive term aded receive term as dB BW=0.55* sponse SED ACCEPT IN	Response Status W N PRINCIPLE. hse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E mination is the 50 ohm scop 106.25=58.4375 GHz Response Status W N PRINCIPLE.	um/Marvell 3W be termination		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa SuggestedRemedy Given little benefit C(0)=0.65 C(-1)= [-0.3:0.02 C(-2)=[0:.02:0.7]	Response S CEPT IN PRINCIPLI through #189 sugge laced by a COM par ion after resolution o SE.5.2 Comment alizer coefficients it of TX FFE C(-3) -	Status W E. est using the Cl olution of these ameters table. f #186-#189. P634 Ghiasi Quant Status D NA	e comments, the	# [<u>138</u> # [<u>138</u> COM TxFFE
Replace T Proposed Res PROPOS Resolve u Cl 176E Shiasi, Ali Comment Typ Single end Single end Receive 3 Proposed Res PROPOS	TBD with 50 Oh sponse SED ACCEPT IN using the respon- SC 176E.5.2 De T aded receive term amedy aded receive term aded receive term as dB BW=0.55* sponse SED ACCEPT IN	Response Status W N PRINCIPLE. hse to comment #35. P634 Ghiasi Quantu Comment Status D mination and receive 3 dB E mination is the 50 ohm scop 106.25=58.4375 GHz Response Status W N PRINCIPLE.	um/Marvell 3W be termination		Proposed Response PROPOSED ACC Comments #186 receiver specifica table may be repl for CRG discussi Cl 176E SC 176 Ghiasi, Ali Comment Type T Transmitter equa SuggestedRemedy Given little benefic C(0)=0.65 C(-1)= [-0.3:0.02 C(-2)=[0:.02:0.7 C(1)=[-0.14:.02 Proposed Response	Response S CEPT IN PRINCIPLI through #189 sugge ations. based on resc laced by a COM par ion after resolution o 5E.5.2 Comment alizer coefficients it of TX FFE C(-3) - 1 2:0] 14] 2:0.14] also goes po	Status W E. est using the CI olution of these ameters table. f #186-#189. P634 Ghiasi Quant Status D NA sitive to allow s Status W	e comments, the	# [<u>138</u> # [<u>138</u> COM TxFFI

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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2/ 176E SC 176E.5.2 P634 L34 # 440	C/ 176E SC 176E.5.2 P634 L50 # 139
i, Tobey MediaTek	Ghiasi, Ali Ghiasi Quantum/Marvell
Comment Type TR Comment Status D COM CTLE parame	rs Comment Type T Comment Status D C2M outp
Pole & zero frequency values of continuous time filter are TBD	Jitter and noise parameters are TBD
uggestedRemedy	SuggestedRemedy
Replace zero 1 frequency, fz1, with fb/2.5 GHz Replace zero 2 frequency, fz2, with fb/80 GHz Replace pole 1 frequency, fp1, with fb/2.5 GHz Replace pole 2 frequency, fp2, with fb GHz Replace pole 3 frequency, fp3, with fb/80 GHz	See Ghiasi C2M May-24 Contribution for background on the numbers Eta0=1.25E-8 Transmitter SNR = NA for reference receiver but may use 33 dB for COM code Transmitter Sigma = NA for reference receiver but may use 0.01 UI for COM code Transmitter dual-Dirac jitter = NA for reference receiver but may use 0.02 UI for COM code Transmitter RLM = NA for reference receiver but may use 95% for COM code
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE.	Proposed Response Response Status W
There are several comments on this topic. The editorial team prepared a proposal in the comment resolution slide deck URL/ran_3dj_01_2406. For CRG discussion. C/ 176E SC 176E.5.2 P634 L43 # 441	 PROPOSED ACCEPT IN PRINCIPLE. Comments #186 through #189 suggest using the CR methodology for transmitter and receiver specifications. based on resolution of these comments, the reference receiver table may be replaced by a COM parameters table. For CRG discussion after resolution of #186-#189.
i, Tobey MediaTek	CI 176E SC 176E.5.2 P634 L53 # 442
omment Type TR Comment Status D COM	⁻ ^r Li, Tobey MediaTek
Transmitter transition time Tr value in Table 176Eû7 is TBD	Comment Type TR Comment Status D R
uggestedRemedy Replace TBD with Tr = 4 ps	Level separation mismatch ratio RLM in Table 176Eû7 is TBD
Proposed Response Response Status W	SuggestedRemedy Replace TBD with 0.95
PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #39.	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #273.
	C/ 176E SC 176E.5.2 P635 L5 # 443
	Li, Tobey MediaTek
	Comment Type TR Comment Status D COM methodolo Number of samples per unit interval in Table 176Eû7 is TBD COM methodolo COM methodolo
	SuggestedRemedy Replace TBD with 32
	Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #360.

C/ 176E SC 176E.5.2

C/ 176E SC 176E.5.	2 P635	L35	# 444	C/ 177	SC 177	P 257	L 28	# 22
_i, Tobey	MediaTek			Liu, Cathy		Broadcom		
Comment Type TR	Comment Status D		Linear fit	Comment T	Туре Т	Comment Status D		Inner FEC coding gair
"Dp equal to 3" is not	right as there are 3 pre-taps for	or the host				tions that the inner FEC deco		
SuggestedRemedy						is beyond the scope of the der's performance bound? If		
Change "Dp equal to	3" to "Dp equal to 4"				t might be misse		not, the optical	I MD DEIX larger of link
Proposed Response	Response Status W			Suggested	Remedy			
PROPOSED ACCEP Resolve using the res						cision decoder shall provide the error statistics are suffic		3) coding gain over end-
C/ 176E SC 176E.5.	2 P635	L 50	# 140	Proposed F	Response	Response Status W		
Ghiasi, Ali	Ghiasi Quant			-	OSED REJECT			
Comment Type T	Comment Status D		COM ref Rx			eness of the Inner FEC is no between the errors on the i		
Reference equalizer i			00mmer nx		errors have on t			
•						tion to appropriately define t	he expected Inn	er FEC performance is
SuggestedRemedy Propose to use fix 25	tap FFE with 1T DFE			encour	aged.			
Max # of pre-cursor ta	•			C/ 177	SC 177.1.3	P 249	L10	# 81
	0 75			LL L The		NL-L2-		
DFE max tap weight	= 0.75			Huber, Tho	omas	Nokia		
	= 0.75 Response Status W			Comment		Nokia Comment Status D		(bucket
Proposed Response PROPOSED ACCEP	Response Status W T IN PRINCIPLE.	#070		Comment T	Туре Т			(bucket
Proposed Response PROPOSED ACCEP	Response Status W	# 279.		Comment T	<i>Type</i> T econd bullet cou	Comment Status D		(bucket
Proposed Response PROPOSED ACCEP Resolve using the res CI 176E SC 176E.5.	Response Status W T IN PRINCIPLE. sponse to comment #274 and a	#279. L 49	# 523	Comment T The se Suggested Revise	Type T econd bullet cou IRemedy	Comment Status D	utional interleave	<i>(bucket</i> d data to (from) eight
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636			Comment T The se Suggested Revise	Type T econd bullet cou <i>Remedy</i> e to read "Distrib FEC flows	Comment Status D Id be written more clearly	utional interleave	· · ·
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia	L 49	(bucket)	Comment T The se Suggested Revise Inner F Proposed F	Type T econd bullet cou <i>Remedy</i> e to read "Distrib FEC flows	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W	utional interleave	· · ·
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D	L 49	<i>(bucket)</i> ility for each sample	Comment T The se Suggested Revise Inner F Proposed F PROPO	Type T econd bullet cou <i>Remedy</i> to read "Distrib FEC flows <i>Response</i> OSED ACCEPT	Comment Status D Id be written more clearly uting (collecting) the convolu <i>Response Status</i> W		d data to (from) eight
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct too tolerant to jitter.	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu	L 49	<i>(bucket)</i> ility for each sample	Comment T The se Suggested Revise Inner F Proposed F PROPO	Type T econd bullet cou Remedy to read "Distrib FEC flows Response OSED ACCEPT SC 177.1.3	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W C	utional interleave	· · ·
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct too tolerant to jitter. SuggestedRemedy	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu- ion w(t) defined by Equation (1	L 49 imulated probab 76E-4)": this ma	<i>(bucket)</i> ility for each sample akes the measurement	Comment T The se Suggested Revise Inner F Proposed F PROPO Cl 177 Huber, Tho	Type T econd bullet cou <i>Remedy</i> to read "Distrib FEC flows <i>Response</i> OSED ACCEPT SC 177.1.3 omas	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W P249 Nokia		d data to (from) eight # <u>82</u>
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct too tolerant to jitter. SuggestedRemedy Remove the Gaussia	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu ion w(t) defined by Equation (1 n weighting function w(t), incre	L 49 Imulated probab 76E-4)": this ma ase +/-0.05 to +.	<i>(bucket)</i> ility for each sample akes the measurement /-0.07, same as	Comment T The se Suggested Revise Inner F Proposed F PROPO Cl 177 Huber, Tho Comment T	Type T econd bullet cou Remedy to read "Distrib FEC flows Response OSED ACCEPT SC 177.1.3 omas Type T	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W P249 Nokia Comment Status D		d data to (from) eight # <u>82</u>
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct too tolerant to jitter. SuggestedRemedy Remove the Gaussia TDECQ. This will ma link. Use this method	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu- ion w(t) defined by Equation (1	L 49 imulated probab 76E-4)": this ma ase +/-0.05 to +, e a better measu	<i>(bucket)</i> ility for each sample akes the measurement /-0.07, same as urement to protect the	Comment T The se Suggested Revise Inner F Proposed F PROPO Cl 177 Huber, Tho Comment T The fift	Type T econd bullet cou Remedy to read "Distrib FEC flows Response OSED ACCEPT SC 177.1.3 omas Type T th bullet could b	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W P249 Nokia		d data to (from) eight # <u>82</u>
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct too tolerant to jitter. SuggestedRemedy Remove the Gaussia TDECQ. This will ma link. Use this method appropriate.	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu- ion w(t) defined by Equation (1 n weighting function w(t), increate ake VEC look worse, but will be d for CR also, with "software ch	L 49 imulated probab 76E-4)": this ma ase +/-0.05 to +, e a better measu	<i>(bucket)</i> ility for each sample akes the measurement /-0.07, same as urement to protect the	Comment T The se Suggested Revise Inner F Proposed F PROPO Cl 177 Huber, Tho Comment T The fift Suggested	Type T econd bullet cou Remedy to read "Distrib FEC flows Response OSED ACCEPT SC 177.1.3 omas Type T th bullet could b Remedy	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W C P249 Nokia Comment Status D e written more clearly	L14	ed data to (from) eight # <u>82</u> (bucket
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time intervy weighted by the funct too tolerant to jitter. SuggestedRemedy Remove the Gaussia TDECQ. This will ma link. Use this method appropriate. Proposed Response	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu- tion w(t) defined by Equation (1 n weighting function w(t), increa ke VEC look worse, but will be d for CR also, with "software ch Response Status W	L 49 imulated probab 76E-4)": this ma ase +/-0.05 to +, e a better measu	<i>(bucket)</i> ility for each sample akes the measurement /-0.07, same as urement to protect the	Comment T The se Suggested Revise Inner F Proposed F PROPO Cl 177 Huber, Tho Comment T The fift Suggested	Type T econd bullet cou Remedy to read "Distrib FEC flows Response OSED ACCEPT SC 177.1.3 omas Type T th bullet could b Remedy to read "8:1 int	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W P249 Nokia Comment Status D	L14	d data to (from) eight # <u>82</u> (bucket
Proposed Response PROPOSED ACCEP Resolve using the res Cl 176E SC 176E.5. Dawe, Piers Comment Type TR "within the time interv weighted by the funct too tolerant to jitter. SuggestedRemedy Remove the Gaussia TDECQ. This will ma link. Use this method	Response Status W T IN PRINCIPLE. sponse to comment #274 and a 2 P636 Nvidia Comment Status D ral t_s +/-0.05 UI and with accu- tion w(t) defined by Equation (1 n weighting function w(t), increa ke VEC look worse, but will be d for CR also, with "software ch Response Status W	L 49 imulated probab 76E-4)": this ma ase +/-0.05 to +, e a better measu	<i>(bucket)</i> ility for each sample akes the measurement /-0.07, same as urement to protect the	Comment T The se Suggested Revise Inner F Proposed F PROPO Cl 177 Huber, The Comment T The fift Suggested Revise	Type T econd bullet cou Remedy to read "Distrib FEC flows Response OSED ACCEPT SC 177.1.3 omas Type T th bullet could b Remedy to read "8:1 int flow"	Comment Status D Id be written more clearly uting (collecting) the convolu Response Status W C P249 Nokia Comment Status D e written more clearly	L14	ed data to (from) eight # <u>82</u> (bucket

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 177 SC 177.1.3 Page 63 of 137 5/31/2024 10:47:11 AM

C/ 177	SC 177.1.4	P 250	L 25	# 83	C/ 177	SC 1	77.4.1	P 251	L 36	# 605
Huber, Thon	nas	Nokia			de Koos, A	Andras		Microchip Teo	hnology	
Comment Ty	/pe T	Comment Status D		PAM4 decoding (bucket)	Comment	Туре	т	Comment Status D		timesync (bucket)
decoding	g in any case, s 14 symbols.	ing as optional seems a bit n so the FEC must do some so			input-te metho explair	o-output d to prop ned in C	latency perly calo lause 90	nvolutional interleaver/deinter of the Inner FEC sublayer. A sulate the path data delay for similarly to what is done for clause 90.7.1.	s such, there is the Inner FEC s	concern that the sublayer should be
	ize the label in t iple options for	the box to "Decoding", and e decoding.	xplain in the	text in 177.5.x that there	Suggested					
		Response Status W IN PRINCIPLE. Jure 177-2.			delay t there i	the gen o the tra s no am	ansmit Pl biguity.	od in Clause 90A, allocating HY and the minimum value of	the intrinsic del	lay to the receive PHY,
C/ 177	SC 177.1.4	P 250	L 32	# 543				essary to add to Clause 90 fo should apply.	or every new PH	IY type. The principles
Rechtman, Z	Zvi	Nvidia			lf anytl	ning, a g	general n	ote could be added in Clause		
Comment Ty	/pe T	Comment Status D		PAM4 decoding (bucket)	registe	rs for pa	ath data (delay values) explaining that t llowing the guidelines in Anne	the Tx/Rx path c	data delay values
There is		PAM4 decoding is optional i		ft decoding.		s used f		path data delay, and the mir		
		is defined using bit streams		1 therefore PAMA	Proposed	Respon	se	Response Status W		
	g must to take p				PROP	OSED F	REJECT.			
SuggestedR	• •							does not propose an actiona		
00		ote, or elaborate on the inter	ntion of this f	ootnote.				kle notes related to time sync vas not done in previous clau		
Proposed Re		Response Status W			prefera	able to a	dd the n	al is encouraged.		

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 83.

> C/ 177 SC 177.4.1

C/ 177	SC 177.4.1	P 251	L 50	# 610	C/ 177	SC	177.4.1	P 252	L 9	# 292
Huang, Ke	chao	Huawei Tech	nologies Co., Lt	d.	Galan, Jos	se Vice	nte	Maxlinear Inc		
Comment	Туре Т	Comment Status D		CI (bucket)	Comment	Туре	TR	Comment Status D		CI (bucket)
data b	y eight	rleaver is composed of 3 dela	-					lutional interleaver are not in I vectors of Annex 177A and h		
		e second by four RS-FEC co ues are 544/272/136/68 for 2			Suggested	Remec	ły			
values		6/48/24 as shown in slides 6				for 1.6T BASE-R	,	Q=48 for 800GBASE-R, Q=9	6 for 400GBA	SE-R and Q=192 for
Suggested	Remedy				Proposed	Respor	nse	Response Status W		
The co	nvolutional interl	50-51 in page 251 as follows eaver is composed of three p	barallel delay lin		-			IN PRINCIPLE. onse to comment #366.		
		177û3. Each delay operator ô ie to the next higher delay lin			C/ 177	SC	177.4.1	P 252	L 9	# 366
Modify	the Q values to	192/96/48/24 for 200G/400G	/800G/1.6T		He, Xiang			Huawei		
Proposed I	Response	Response Status W			Comment	Туре	TR	Comment Status D		CI (bucket)
	OSED ACCEPT				The Q	values	are not th	ne same as the baseline adop	ted.	
Resolv	e using the resp	onse to comment #366.			Suggested	Remed	ly			
Cl 177	SC 177.4.1	P 251	L 51	# 544	Accore	ding to	fhe adopte	ed baseline, change the Q val	ues as follows	:
Rechtman	, Zvi	Nvidia					E-R: Q = E-R: Q =			
Comment	Type TR	Comment Status D		CI (bucket)			E-R: Q =			
		e description of the Convolut	ional interleaver	functionality doesnÆt	— 1.6	T BASE	E-R: Q = 2	24		
	the adopted valu	ies in he_3dj_01_2307.pdf			Proposed	Respor	nse	Response Status W		
200G I 400G I	BASE-R: Q = 192 BASE-R: Q = 96	2						IN PRINCIPLE. ed remedy with editorial licens	se.	
	BASE-R: Q = 48 ASE-R: Q = 24				C/ 177	SC	177.4.1	P 252	L18	# 295
Suggested					Galan, Jos	se Vice	nte	Maxlinear Inc		
00	the Q values to:				Comment	Туре	т	Comment Status D		CI (bucket)
200G I 400G I	BASE-R: Q = 192 BASE-R: Q = 96 BASE-R: Q = 48				the co	nvolutic	onal de-int	I interleaver switches round-re erleaver switches round-robined the other way round?		
1.6T B	ASE-R: Q = 24				Suggested	Remed	ły			
Duanaati	D							nal interleaver order if that is t	ne case.	
Proposed I	•	Response Status W			Proposed	Respor	nse	Response Status W		
-	OSED ACCEPT	IN PRINCIPLE. onse to comment #366.			, PROP	, OSED	REJECT.	the adopted baseline. It is cor	rect as docum	antod

C/ 177 SC 177.4.1 Page 65 of 137 5/31/2024 10:47:11 AM

Cl 177	SC 177.4	.1 P252	L19	# 488
Slavick, Jef	f	Broadcom		
Comment T	уре Т	Comment Status D		Cl (bucket)
		Cl177 starts with feeding data into y line with the shortest delay.	the longest de	elay line while CI184
SuggestedF	Remedy			
	e Cl177 to h gest delay.	ave the Delay Line 0 be the minim	nal delay and t	he Delay Line 2 to be
Proposed R	lesponse	Response Status W		
	SED REJE	CT. vith the adopted baseline. It is cor	rect as docum	ented.
C/ 177	SC 177.4	.1 P256	L 50	# 545
Rechtman,	Zvi	Nvidia		
Comment T	ype TR	Comment Status D		CI - Editorial (bucket)
For 200	to: nvolutional GBASE-R	interleaver is composed of 3 dela the first line (line0) delays the PH nd line (line1) by 4x1x192 = 768 R	Ys data by 4x2	
(line3) a For 400 Symbol	adds no dela GBASE-R s, the seco		rs data by 4x2	2x96 = 768 RS-FEC
	GBASE-R	the first line (line0) delays the PH nd line (line1) by 4x1x48 = 192 RS		
For 1.6	TBASE-R the secon	ne first line (line0) delays the PHY nd line (line1) by 4x1x24 = 96 RS		
Proposed R	esponse	Response Status W		
		EPT IN PRINCIPLE.		

Implement the suggest remedy with editorial license.

C/ 177	SC 177.4.1	P 256	L 53	# 546
Rechtman, Z	Zvi	Nvidia		
Comment Ty	vpe T	Comment Status D		CI - Editorial (bucket)

The input and output round-robin operation is defined relatively to the delay/buffering size of each lane. However, there are lines index that represent the delay and simplify the definition.

SuggestedRemedy

Change:

"The input data round-robins between the three delay lines beginning with the eight RS-FEC delay line, then the four RS-FEC delay line and lastly the zero delay line. The output of the convolutional interleaver round-robins between the three delay lines receiving one RS-FEC symbol-quartet from each at a time beginning with the eight RS-FEC delay line, then four RS-FC delay line, and lastly the zero delay line"

To:

"The input data round-robins between the three delay lines beginning with the line0, then line1 delay line and lastly line2. The output of

the convolutional interleaver round-robins between the three delay lines receiving one RS-FEC symbol-quartet (4 symbols) from each at a time beginning with line0, then line1, and lastly line2"

Proposed Response	Response Status	w	

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggest remedy with editorial license.

C/ 177	SC ·	177.4.3	P 252	L 37	# 607
de Koos, A	ndras		Microchip T	echnology	
Comment	Туре	т	Comment Status D		Circular Shift (bucket)

Was there not a proposal to make the circular shift optional, in order to minimize latency?

SuggestedRemedy

Consider removing the circular shift if it does offer not any worthwhile benefit.

roposed Response Response Status W

PROPOSED REJECT.

This is consistent with the baseline adopted. The comment does not provide sufficient justification to support the suggested remedy.

C/ 177 SC 177.4.3

C/ 177	SC 177.4.3	P 252	L 37	# 606	C/ 177	SC ·	177.4.4	P 253	L 48	# 612
de Koos, A	Indras	Microchip Tec	hnology		Huang, Ke	chao		Huawei Techi	nologies Co.,	Ltd.
Comment	Туре Т	Comment Status D		Circular Shift (bucket)	Comment	Туре	т	Comment Status D		Inner FEC code (bucket)
pairs b Withou	elonging to the s It the shift, the co	he circular shift really adds ar ame RS-FEC codeword, butà onsecutive bit pairs (after 8:1	a multiplexing) t	pelonging to the same	Table	177—1'	" is not ac	G(60,8) for the Hamming(68 curate. The generation matri umns, where the most-left 6	x for the Ham	ming(68,60) should be
RS-FE not?	C code words wo	ould each protected by differe	nt Inner FEC	code words, would they	Suggested	Remed	ly			
So is the all land	l on the same RS	ust protecting against uncorre S-FEC codeword? Seems over ncluding circular shift?			G=[I_6 matrix	60 ; G_	(60x8)],w o generate	sentence to "The generator r here I_60 is the 60x60 identi the 8 parity bits given in		
Suggested	Remedy				Proposed			Response Status W		
Consid	er removing the	circular shift if it does not offe	er any worthwh	ile benefit.	,	,		IN PRINCIPLE.		
-	OSED REJECT.	Response Status W	mment does n	ot provide sufficient	The fo meetir	llowing	presentat	on was reviewed by the 802		·
		he suggested remedy.						ed remedy with editorial licen		
C/ 177	SC 177.4.4	P 253	L 48	# 611	C/ 177	SC ·	177.4.6	P 254	L	# 608
Huang, Ke	chao	Huawei Techn	ologies Co., L	.td.	de Koos, A	Andras		Microchip Teo	hnology	
Comment	Туре Т	Comment Status D		Inner FEC code(bucket)	Comment	Туре	т	Comment Status D		pad insertion (bucket)
as poir	nted out in many	ng code is most naturally defi textbooks and standard docu nded Hamming(128,119) cod	ments. One fa	mous example is the		/s find r		bad bits and their interval for erring to the equivalent RS-F		
Suggested	Remedy				Suggested	Remed	ly			
		construction process and pari to enhance the completeness			Consic Figure		ing a figur	e illustrating the pad insertion	n and interval	, in the same style as
	tation will be pro	vided.			Proposed	Respon	ise	Response Status W		
Proposed I	Response	Response Status W			PROP	OSED	ACCEPT	IN PRINCIPLE.		
The fol		IN PRINCIPLE. ion was reviewed by the 802.	3dj task force	at the May Interim	Impler	nent the	e suggest	remedy with editorial license		
meetin	0	g/3/dj/public/24_05/huang_3d	i 01a 2405 n	df						

C/ 177 SC 177.4.6

CI 177 SC 177.4	.6 P254	L 31	# 604	C/ 177	SC	177.4.6	P 254	L 44	# 489
de Koos, Andras	Microchip Tec	hnology		Slavick, Je	eff		Broadcom		
Comment Type T	Comment Status D		timesync(bucket)	Comment	Туре	т	Comment Status D		pad insertion (bucket
 An inaccuracy in output FEC parity b This arbirtary pha 	ad bits vs outer FEC parity bits the path data delay of up to 12ps its and the inner FEC pad bits of se would affect the path data del , if my math is correct.	due to arbitra the phase is n		unnec sufficie Suggested	essary. ent. <i>IReme</i> o	. The requ	cribing options for how the par irement that it ocurs every 87		
SuggestedRemedy						1 0	aph of 177.4.6		
3 possible ways to a. Impose a phase FEC pad bits, whic	relationship between the RS FEC	es to the draft.		-	OSED	ACCEPT	Response Status W N PRINCIPLE. ed remedy with editorial licens	e.	
	e 90, perhaps) that the path data be strictly additive to the path data			Cl 177	SC	177.4.6	P 254	L 44	# 84
and PMA layers.		- 		Huber, The	omas		Nokia		
C. Ignore. Based o	n 90A.7, the effect here is small e tial delay difference between the	addredated de	address specifically.	Comment	Туре	т	Comment Status D		pad insertion (bucket
	lelays is small enough to satisfy						254 is not necessary - impler s, as long as the end result ma		
	It should not be necessary to add EC pad bits to address a potentia Response Status W			Suggested Delete		<i>dy</i> aragraph.			
PROPOSED REJE The following relate Interim meeting.	CT. d presentation was reviewed by t	•	k force at the May		, OSED	ACCEPT	Response Status W IN PRINCIPLE. remedy with editorial license.		
It appeared that the	2.org/3/dj/public/24_05/he_3dj_0 re was no consensus to make ar	1a_2405.pdf ny related char	iges to the draft.	C/ 177	SC	177.4.6.1	P 255	L 25	# 174
C/ 177 SC 177.4		L33	# 296	Ramesh, S	Sridhar		Maxlinear Inc		
		L 33	# 290	Comment	Туре	Е	Comment Status D		(editorial)
Galan, Jose Vicente Comment Type T It is not declared w	Maxlinear Inc Comment Status D nen the first pad insertion should	happen.	pad insertion (bucket)	purpos	se in ali	ignment. S	naming does not convey uggest to call this field ience" instead.		
SuggestedRemedy				Suggested	Remed	dy			
Indicate in the text	hat the first pad insertion will hap	pen right at th	e beginning of CWs,	Pad Fi	rame A	lignment S	Sequence		
same as in the test				Proposed			Response Status W		
Proposed Response PROPOSED ACCE	Response Status W PT IN PRINCIPLE. gest remedy with editorial license			-			N PRINCIPLE. license and discretion.		

C/ 177 SC 177.4.6.1

C/ 177	SC 177.4.6.2	P 255	L 49	# 297	C/ 177	SC 177.5	P 256	L 24	# 85
Galan, Jo	se Vicente	Maxlinear Inc			Huber, Th	omas	Nokia		
Comment	Туре Т	Comment Status D		pad insertion (bucket)	Comment	Туре Т	Comment Status D		Precoding
		e the IBSF are beyond the sc ary? Or will it be defined in ot				ding to figure 17 on decoding).	7-2, the first process the rece	iver performs is	PAM4 decoding (or soft-
Suggestee	dRemedy				Suggested	lRemedy			
Clarify	in the text where	the use of the IBSF will be de	fined.		Add a	subclause for th	e decoding process.		
Proposed	Response	Response Status W			Proposed	Response	Response Status W		
-	POSED ACCEPT I ment the suggest	IN PRINCIPLE. remedy with editorial license.			-		IN PRINCIPLE. t remedy with editorial license	e.	
C/ 177	SC 177.4.7.2	P 256	L12	# 547	C/ 177	SC 177.5.1	P 256	L 25	# 86
Rechtmar	n, Zvi	Nvidia			Huber, Th	omas	Nokia		
Comment	Type TR	Comment Status D		precoding	Comment	Туре Т	Comment Status D		Inner FEC Sync (bucket)
Proposed PROF Backg editori	recoding, and use <i>Response</i> POSED ACCEPT I	ed changes are provided in th r CRG review.	0		Suggested Rewrit interva Proposed PROP	IRemedy e the text to des al Response OSED REJECT		ttern and finding	g it at the expected
C/ 177	SC 177.4.7.2	P 256	L13	# 582			ot provide sufficient justificationsistent with the adopted base		suggested remedy.
Ghiasi, Al	i	Ghiasi Quantur	n/Marvell						
Comment	Type T	Comment Status D		precoding					
	oding was shown o oding is essential f	on riani_3dj_01a_2303 FECI b for FECi PMDs	aseline that	when was adopted, and					
Suggestee	dRemedy								
173.5 OLT t	.7.2, 6 and 176.9. he optical transmi	e-coder in this sub-clause. as 1.2, that may be enabled or di tter should enable 1/(1+D) mo 4 presentation on the need fo	sabled as ne d 4 precodin	eded with OLT, without					
Proposed	Response	Response Status W							

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

PROPOSED ACCEPT IN PRINCIPLE. Resolve using response to comment #547

> C/ 177 SC 177.5.1

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C/ 177											
	SC 177.5.1	P 256	L 50	# 490	C/ 177	SC 177.5	3	P 257	L 29	# 183	
Slavick, Jeff	÷	Broadcom			Brown, Matt			Alphawave S	Semi		
Comment Ty	vpe T	Comment Status D		nner FEC Sync (bucket)	Comment Ty	pe T	Comme	ent Status D		counters(bucket)	
diagram		/ou monitor on all flows. But Fi ow checking for 140 bad out of flows evenly.			177.5.3 lists a few counter to be supported by the inner FEC. The definition for some of these could be improved. Further, additional counters should be included provides bins error counts to help estimate quality of the link.						
SuggestedR	Remedy				SuggestedR	emedy					
Change:					A contrib	oution with r	nore details w	ill be provided.			
		consecutive codewords on all fl estart from step a). "	ows, if at leas	t 140 codewords are	Proposed Re PROPO	•	Respons PT IN PRINCI	se Status W PLE.			
	eword windows	umber of invalid codewords sea , if at least 140 codewords are i						viewed by the 802 /3/dj/public/24_05		ce at the May Interim 05a_2405.pdf.	
Proposed Re	esponse	Response Status W			Impleme	nt slides 7,	9 and 10 with	editorial license.			
	SED ACCEPT ent the suggest	IN PRINCIPLE. remedy with editorial license.			C/ 177	SC 177.5	3.1	P 257	L 45	# 493	
C/ 177	SC 177.5.1	P 257	L1	# 609	Slavick, Jeff			Broadcom			
de Koos, An	odras	Microchip Techr			Comment Ty	pe T	Comme	ent Status D		Inner FEC decode (bucket)	
Comment Ty		Comment Status D	•••	nner FEC Sync (bucket)	Defining	how a mise	rorected code	word can occur c	ould be phra	sed more clearly.	
A figure flows wo presenta	illustrating the buld be very hel ations!	pful here. I only understand be	d the relation	ship to the Inner FEC		at for soft-c			,	en there is more than one niscorrection could	
SuggestedR	,				happen.			ways a non-zero (
00	r addina a fiaur	e illustrating how the position o	f the 1 bit-pair	of skew determines	To:						
Conside	r FEC flow num				ôNote th	at when the	re is more that	in one bit error in	a codeword t	there is a chance that the	
Conside the Inne	r FEC flow num							in one bit error in prrect the codewor		there is a chance that the	
Conside the Innel Proposed Re PROPO	r FEC flow num esponse SED ACCEPT	ber. Response Status W				sion decod	er could misco			there is a chance that the	

C/ 177 SC 177.5.3.1 Page 70 of 137 5/31/2024 10:47:12 AM

CI 177 SC 177.6 P262 L5 # 505	CI 177 SC 177.6.2.3 P260 L3 # 176
Ren, Hao Huawei	Ramesh, Sridhar Maxlinear Inc
Comment Type TR Comment Status D Inner FEC In Figure 177—8, the input variable of state FS_LOCK_INIT is not correct. It would cause	
FS lock error.	SuggestedRemedy
SuggestedRemedy FS_LOCK_INIT state should be entered after all the 8 flows obtain their inner FEC	Please make definitions of counters consistent with status variables shown on Table 177-4 page 263
codeword boundaries and inner FEC flow 0 is identified, when fs_lock is false.	Proposed Response Response Status W
Propose change: Change the input variable from ' !all_synced ' to ' all_synced * !fs_lock '.	PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183.
Change the definition of all_synced	CI 177 SC 177.6.2.3 P260 L3 # 175
from 'A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is</x>	Ramesh, Sridhar Maxlinear Inc
set to false when sync_flow <x> is false for any x.'</x>	Comment Type TR Comment Status D counters(bucket
to 'A Boolean variable that is set to true when inner FEC flow 0 is identified and is set to fa	Add a counter for uncorrectable codewords (detected with additional one bit parity)
when sync_flow <x> is false for any x.'</x>	SuggestedRemedy
(in page 258 line 48-50)	uncorr_cw_cnt Countes the number of inner FEC codewords considered uncorrectable by inner FEC
(in page 258 line 48-50) Proposed Response Response Status W	
(in page 258 line 48-50)	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is</x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W ROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183.
 (in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow<x> is true for all eight flows and is set to false when sync_flow<x> is false for any x."</x></x> 	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W ROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183.
 (in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow<x> is true for all eight flows and is</x> 	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. C/ 177 SC 177.6.3 P262 L8 # 491 Slavick, Jeff Broadcom Communit Tage and E communit Official D
<pre>(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow<x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: " A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x."</x></x></x></x></pre>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. CI 177 SC 177.6.3 P 262 L 8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editor)
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: " A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x." C/ 177 SC 177.6.2.1 P258 L52 # 492</x></x></x></x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. CI 177 SC 177.6.3 P 262 L 8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editored) In Figure 177-8 the wrong character is showing up for the <= symbol
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: "A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x." C/ 177 SC 177.6.2.1 P258 L52 # [492] Slavick, Jeff Broadcom</x></x></x></x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. CI 177 SC 177.6.3 P262 L8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editors In Figure 177-8 the wrong character is showing up for the <= symbol SuggestedRemedy Fix <= symbol in Figure 177-8 Proposed Response Status D (editors) Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symb
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: "A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x." C/ 177 SC 177.6.2.1 P258 L52 # [492] Slavick, Jeff Broadcom</x></x></x></x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. CI 177 SC 177.6.3 P262 L8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editors In Figure 177-8 the wrong character is showing up for the <= symbol SuggestedRemedy Fix <= symbol in Figure 177-8 Proposed Response Status D (editors) Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symbol in Figure 177-8 Fix <= symb
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: " A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x." C/ 177 SC 177.6.2.1 P258 L52 # [492] Slavick, Jeff Broadcom Comment Type T Comment Status D Inner FEC Sync (but Countes automagically have a _done variable created for them, so no need to define fc_cnt_done</x></x></x></x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. W CI 177 SC 177.6.3 P 262 L 8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editor
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: " A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x." C/ 177 SC 177.6.2.1 P258 L52 # [492] Slavick, Jeff Broadcom Comment Type T Comment Status D Inner FEC Sync (but Countes automagically have a _done variable created for them, so no need to define fc_cnt_done</x></x></x></x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. W CI 177 SC 177.6.3 P 262 L 8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editor
(in page 258 line 48-50) Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Change the condition for FS_LOCK_INIT state from "!all_synced" to "all_synced*!fs_loc Change the definition of variable "all_synced" from: "A Boolean variable that is set to true when sync_flow <x> is true for all eight flows and is set to false when sync_flow<x> is false for any x." to: " A Boolean variable that is set to true when sync_flow<x> is true for all eight flows AND inner FEC flow 0 is identified, and is set to false when sync_flow<x> is false for any x." C/ 177 SC 177.6.2.1 P258 L52 # 492 Slavick, Jeff Broadcom Comment Type T Comment Status D Inner FEC Sync (but Countes automagically have a _done variable created for them, so no need to define fc_cnt_done SuggestedRemedy</x></x></x></x>	Countes the number of inner FEC codewords considered uncorrectable by inner FEC decoder Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment # 183. W CI 177 SC 177.6.3 P 262 L 8 # 491 Slavick, Jeff Broadcom Comment Type E Comment Status D (editor

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 177 SC 177.6.3

CI 177	SC 177.10	P 264	L 28	# 182	C/ 178	SC ·	178.1	P 268	L 45	# 364
Brown, Ma	tt	Alphawave Se	mi		Healey, Ac	dam		Broadcom Inc		
Comment	Туре Т	Comment Status D		Skew	Comment	Туре	т	Comment Status D		(bucket
already	/ specified 200G	EC in combination with the SM BASE-R, 400GBASE-R, and	800GBASE-R F	PCS, the total skew			6A contro 179-1).	ol function is required and sho	uld be included	l in Table 178-1 (as is
		FEC plus the SM-PMA above ate. Furthermore, the skew sh			Suggested	Remed	'y			
		by the 8:1 and 16:2 SM-PMA			Add "1	76A - C	Control" a	s "Required" in Tables 178-1,	178-2, 178-3, a	and 178-4.
Suggested	Remedy				Proposed	Respon	se	Response Status W		
sublay		kew for the combination of In ding the systematic skew add						IN PRINCIPLE. ed remedy with editorial licen	se.	
Proposed I		Response Status W			C/ 178	SC [·]	178.8.9	P 275	L33	# 363
,	OSED ACCEPT	,			Healey, Ac	dam		Broadcom Inc		
		sed on the suggested remedy	<i>.</i>		Comment	Туре	т	Comment Status D		(bucket
A pres	entation regardin	g this comment is expected.						.9 seems inappropriate here s	ince that subcla	ause contains cross-
/ 177A	SC 177A	P 643	L 5	# 306		•		he Clause 179.		
/laki, Jeffe	erv	Juniper Netwo	rks		Suggested					
Comment		Comment Status D		(bucket)				f 179.8.9 here, replacing refe responding references in Cla		e 179 electrical
Annex	title unnecessari	ly uses the acronym IMDD. N	ot clear what p	urpose is achieved that	Proposed			Response Status W	use 170.	
cannot	be achieved sim	ply by omitting the use of the	acronym IMDE).		•		IN PRINCIPLE.		
Suggested	Remedy							ed remedy with editorial licen	se.	
Delete	the acronym IMI	DD.			C/ 178	SC -	178.9.1	P275	L 39	# 395
Proposed H	Response	Response Status W					170.9.1		L 39	# 395
-	OSED ACCEPT	-			Kocsis, Sa		_	Amphenol		_
	e title to "Test ve \SE-R Inner FEC	ctors for 200GBASE-R, 400G	BASE-R, 8000	BASE-R, and	Comment		T	Comment Status D		R_0
1.010/	ASE-R Innel FEC	,				sterence		ice should match the system	mpedance, Rd	as defined in COIVI
C/ 178	SC 178	P 270	L17	# 23	Suggested					
Liu, Cathy		Broadcom			00			poll based on proposed value	s presented in	Task Force
Comment	Type E	Comment Status D		(editorial)	contrib		51 51 61 61			
Table ?	178-4 "120F-1.6	GAUI-16 C2C'			Proposed	Respon	se	Response Status W		
Suggested	Remedy				PROP	OSED /	ACCEPT	IN PRINCIPLE.		
change	e to "120F-1.6TA	UI-16 C2C'			Resolv	/e using	the resp	onse to comment #35.		
Proposed I	Response	Response Status W								
•	OSED ACCEPT	•								

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 178	SC 178.9.2	P 275	L 48	# 230	C/ 178	SC 178.9.2	P 276	L18	# 452
Li, Mike		Intel			Simms, W	illiam	NVIDIA		
Comment T	ype TR	Comment Status D		B-T filter BW	Comment	Туре т	Comment Status D		TX AC CM (bucket)
	V is TBD					may need to b /cm noise of 80	e relaxed for 200Gb/s. Measu mVpp at TP2.	ure of 15dB full b	and at TP0v given full
SuggestedF	•				Suggested	Remedy			
Rationa		he common and cost effective		ctor BW, and	Likely	need to tighten	80mV Vcm in table 179-7 for	200Gb/s	
		urement error, give rise to this	numper.		Proposed I	Response	Response Status W		
	SED ACCEPT	Response Status W IN PRINCIPLE. conse to comment #60.			The su		does not propose an action on is not a valid request.	able (within the o	draft) remedy. A
C/ 178	SC 178.9.2	P 275	L 48	# 60	C/ 178	SC 178.9.2	P 276	L19	# 231
Mellitz, Rich	hard	Samtec			Li, Mike		Intel		
Comment T	ype TR	Comment Status D		B-T filter BW	Comment	Type TR	Comment Status D		ERL
		filter should track fr. Between	0.5 fb and 0.6 f	b have been shown in	dERL	(min) is TBD			
presena					Suggested	Remedy			
SuggestedF	-				Chang	e it to -3 dB. Se	e lim_3dj_01_2403a.		
0	TBD to 67GHz				Proposed I	Response	Response Status W		
	, DSED ACCEPT	Response Status W			-		F IN PRINCIPLE. ponse to comment #28.		
	nment address sus is not obvid	es an open TBD and the suggous.	jested remedy is	s reasonable, but	C/ 178	SC 178.9.2	P 276	L 20	# 232
		ments on this topic. The edito		ed a proposal in the	Li, Mike		Intel	-	
	nt resolution sl G discussion.	ide deck URL/ran_3dj_01_240	6.		Comment	Type TR	Comment Status D		TX RLcc
						min) is TBD			
C/ 178	SC 178.9.2	P 275	L 49	# 399	Suggested	Remedy			
Li, Tobey		MediaTek			00		See lim_3dj_01_2403a.		
Comment T	51	Comment Status D		B-T filter BW	Proposed I		Response Status W		
		nent bandwidth is TBD			,	,			
SuggestedF Replace	R <i>emedy</i> e TBD with 62 [.]	GHz				ferenced prese www.jeee802.c	ntation is org/3/dj/public/24_03/lim_3dj_i)1a 2403.pdf.	
Proposed R		Response Status W			There	is no justificatio	n in the presentation for the p		out it is the same as in
•		IN PRINCIPLE.			clause For CF	163. RG discussion.			
		ponse to comment #60.							

C/ 178 SC 178.9.2 Page 73 of 137 5/31/2024 10:47:12 AM

C/ 178	SC 178.9.2	P 276	L 28	# 233	C/ 178	SC 178.9.2	P 276	L 30	# 235
∟i, Mike		Intel			Li, Mike		Intel		
Comment T	ype TR	Comment Status D		TX FFE	Comment	Type TR	Comment Status D		TX FFE
		size for all taps (max)" ingrea and no simod supports"	ated from 802.30	ck, value not suitable		at max state for _, and no simod	c(û2) (min) " from 802.3ck, p supports"	arameter not sui	table for 802.3dj at
SuggestedF	Remedy				Suggested	Remedy			
Change	e it 0.02, see Se	e lim_3dj_01_2405			change	e it to 0.16, see	lim_3dj_01_2405		
Proposed R	Response	Response Status W			Proposed I	Response	Response Status W		
	DSED REJECT.					OSED REJECT	bonse to comment #234		
		ion was reviewed by the task g/3/dj/public/24_05/lim_3dj_0		y 2024 interim meeting:	C/ 178	SC 178.9.2	P 276	L 31	# 288
The cor	mment and the	presentation do not provide s	ufficient iustifica	tion to support the	Li, Mike		Intel		
	ted remedy.		unioioni juotinou		Comment	Type TR	Comment Status D		TX FFE
		MD Tx specifications do not r				at min state for _, and no simod	c(û1) (max) " from 802.3ck, p supports"	arameter not sui	table for 802.3dj at
They ar	e based on rea	sonable implementation and	measurement a	ccuracy assumptions.	Suggested	Remedy			
		02.org/3/ck/public/adhoc/mar			change	e it to -0.4, see l	im_3dj_01_2405		
		nt #62 against 802.3ck d1.1 a g/3/ck/comments/draft1p1/80			Proposed I	Response	Response Status W		
	df#page=14.	g/s/ck/comments/drait tp1/oc			-	OSED REJECT	oonse to comment #234		
C/ 178	SC 178.9.2	P 276	L 29	# 234	C/ 178	SC 178.9.2	P 276	L34	# 27
₋i, Mike		Intel			Mellitz, Ric	shard	Samtec		
Comment T	51	Comment Status D		TX FFE	Comment		Comment Status D		TX SNDR/SCMR
	at minimum stat G/L, and no sime	e for c(û3) (max) " from 802.3 od supports"	3ck, parameter r	ot suitable for 802.3dj			correction factor which is abo	out 1 dB basd on	
SuggestedF	Remedy				Suggested	Remedy			
C(-3) is	not needed, de	lete it, see lim_3dj_01_2405			change	e SNDR to 33,5	dB.		
Proposed R	Response	Response Status W			Proposed I	Response	Response Status W		
The foll https://v The cor	www.ieee802.or	ion was reviewed by the task g/3/dj/public/24_05/lim_3dj_0 presentation do not provide s	1_2405.pdf	, c			IN PRINCIPLE.		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 178 SC 178.9.2 Page 74 of 137 5/31/2024 10:47:12 AM

C/ 178	SC 178.9.2	P 276	L 38	# 236	Cl 178	SC 178.9.2.2	P 278	L 26	# 29
i, Mike		Intel			Mellitz, Rich	ard	Samtec		
Comment Ty Output ji	itter (max) TBD	Comment Status D		TX jitter	Comment Ty scale El	<i>ype</i> TR RL parameter fo	Comment Status D orm 0.3ck		EI
SuggestedRe	emedy				SuggestedR	Remedy			
Jrms : 0. J2.7u03: J2.7u: 0. Evenoc	: 0.102 UI .110 UI dd jitter, pk-pk: 0).025 UI lim_3dj_01_2405, and [1],	[2] [3]		Tr 0.005 ■x 0 GH ?x 0.61 N 400 U	5 ns Iz 8 JI	BD's as follows		
Proposed Re		Response Status W	[2], [0]		Proposed R		Response Status W		
PROPOS The com consens	SED ACCEPT I ment addresses us is not obviou	, N PRINCIPLE. s an open TBD and the sug s.			It is ass change	umed based on Table 178-8.	IN PRINCIPLE. the subclause/page/line, to subclause/page/line, to comment #28.	he suggested rem	edy seems to ask to
commen		nents on this topic. The edito e deck URL/ran_3dj_01_240		ed a proposal in the	C/ 178	SC 178.9.2.2		L 26	# 237
C/ 178	SC 178.9.2.1.2	2 P 277	L 37	# 28	Li, Mike Comment T	vpe TR	Intel Comment Status D		El
		Samtec	201	# 20	Tr is TB				<i>_</i> ,
Mellitz, Richa Comment Ty	ard	Samtec Comment Status D	- 51	# 20 ERL	Tr is TB SuggestedR	D Remedy	, see lim_3dj_01_2403a		_,
Mellitz, Richa Comment Ty	ard /pe TR RL parameter for	Samtec Comment Status D	- 51		Tr is TB SuggestedR	D Remedy it with 0.005 ns			_,
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005	ard <i>ype</i> TR RL parameter for <i>emedy</i> 178-7 change TR ns	Samtec <i>Comment Status</i> D rm 0.3ck	- 51		Tr is TB SuggestedR repalce Proposed R PROPO	D Remedy it with 0.005 ns esponse SED ACCEPT	, see lim_3dj_01_2403a		_,
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 • x 0 GH ?x 0.618	ard <i>ype</i> TR RL parameter for <i>emedy</i> 178-7 change TR ns Iz 8	Samtec <i>Comment Status</i> D rm 0.3ck			Tr is TB SuggestedR repalce Proposed R PROPO	D Remedy it with 0.005 ns esponse SED ACCEPT	, see lim_3dj_01_2403a <i>Response Status</i> W IN PRINCIPLE. onse to comment #28.	L 27	# 238
Mellitz, Rich Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 Tx 0 GH ?x 0.618 N 400 U	ard <i>type</i> TR RL parameter for <i>ternedy</i> 178-7 change TH ns Iz 8 JI	Samtec <i>Comment Status</i> D rm 0.3ck BD's as follows			Tr is TB SuggestedR repalce Proposed R PROPO Resolve	D Remedy it with 0.005 ns esponse SED ACCEPT using the resp	, see lim_3dj_01_2403a <i>Response Status</i> W IN PRINCIPLE. onse to comment #28.	L 27	
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 ■x 0 GH ?x 0.618 N 400 U Proposed Re	ard <i>ype</i> TR RL parameter for <i>temedy</i> 178-7 change TH ins Iz 8 JI <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>temedy</i> <i>tempdy</i> <i>tempdy</i> <i>tempdy</i> <i>temady</i> <i>tempdy</i> <i>tempdy</i> <i>temady</i> <i>temady</i> <i>tempdy</i> <i>tempdy</i>	Samtec Comment Status D rm 0.3ck BD's as follows Response Status W			Tr is TB SuggestedR repalce Proposed R PROPO Resolve Cl 178 Li, Mike Comment Ty	D Remedy it with 0.005 ns esponse USED ACCEPT USED ACCEPT SC 178.9.2.2 Vpe TR	, see lim_3dj_01_2403a Response Status W IN PRINCIPLE. onse to comment #28. P278	L 27	
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 • x 0 GH ?x 0.618 N 400 U Proposed Re PROPOS	ard <i>type</i> TR RL parameter for <i>temedy</i> 178-7 change TH ins Iz 8 JI <i>esponse</i> SED ACCEPT H	Samtec Comment Status D rm 0.3ck BD's as follows Response Status W N PRINCIPLE.		ERL	Tr is TB SuggestedR repalce Proposed R PROPO Resolve C/ 178 Li, Mike	D Remedy it with 0.005 ns esponse USED ACCEPT USED ACCEPT SC 178.9.2.2 Vpe TR	, see lim_3dj_01_2403a <i>Response Status</i> W IN PRINCIPLE. onse to comment #28. <i>P</i> 278 Intel	L 27	# 238
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 X 0 GH ?x 0.618 N 400 U Proposed Re PROPOS The com consens	ard <i>type</i> TR RL parameter for <i>termedy</i> 178-7 change TH ns Iz 8 JI <i>tesponse</i> SED ACCEPT H ment addresses us is not obviou	Samtec Comment Status D rm 0.3ck BD's as follows Response Status W N PRINCIPLE. s an open TBD and the sugg	gested remedy is	ERL	Tr is TB SuggestedR repalce Proposed R PROPO Resolve Cl 178 Li, Mike Comment Ty	D Remedy it with 0.005 ns esponse SED ACCEPT using the resp SC 178.9.2.2 vpe TR TBD	, see lim_3dj_01_2403a <i>Response Status</i> W IN PRINCIPLE. onse to comment #28. <i>P</i> 278 Intel	L 27	# 238
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 x 0 GH ?x 0.618 N 400 U Proposed Re PROPOS The com consens There ar	ard <i>type</i> TR RL parameter for <i>termedy</i> 178-7 change TR 178-7 change TR 178-7 change TR 18 19 10 10 10 10 10 10 10 10 10 10	Samtec <i>Comment Status</i> D rm 0.3ck BD's as follows <i>Response Status</i> W N PRINCIPLE. s an open TBD and the sugges. ments on this topic. The editor	gested remedy is	ERL	Tr is TB SuggestedR repalce Proposed R PROPO Resolve C/ 178 Li, Mike Comment Ty Betax is SuggestedR	D Remedy it with 0.005 ns esponse SED ACCEPT using the resp SC 178.9.2.2 ype TR TBD Remedy	, see lim_3dj_01_2403a <i>Response Status</i> W IN PRINCIPLE. onse to comment #28. <i>P</i> 278 Intel	L 27	# 238
Mellitz, Richa Comment Ty scale ER SuggestedRe in table 1 Tr 0.005 X 0 GH ?x 0.618 N 400 U Proposed Re PROPOS The com consens There ar commen	ard <i>type</i> TR RL parameter for <i>termedy</i> 178-7 change TR 178-7 change TR 178-7 change TR 18 19 10 10 10 10 10 10 10 10 10 10	Samtec Comment Status D rm 0.3ck BD's as follows Response Status W N PRINCIPLE. s an open TBD and the sugg	gested remedy is	ERL	Tr is TB SuggestedR repalce Proposed R PROPO Resolve C/ 178 Li, Mike Comment Ty Betax is SuggestedR	D Remedy it with 0.005 ns esponse USED ACCEPT Using the resp SC 178.9.2.2 Vpe TR TBD Remedy it with 0 GHz, s	, see lim_3dj_01_2403a <i>Response Status</i> W IN PRINCIPLE. onse to comment #28. <i>P</i> 278 Intel <i>Comment Status</i> D	L 27	# 238

C/ 178 SC 178.9.2.2

C/ 178	SC 178.9.2.2	P 278	L 29	# 239		C/ 178	SC 178.9.2.3	P 278	L 46	# 242
Li, Mike		Intel				Li, Mike		Intel		
Comment Rox is	51	Comment Status D			ERL	Comment T mac fre	<i>Type</i> TR eq is TBD	Comment Status D		ER
Suggested	Remedy					Suggested	Remedy			
repalce	e it with 0.618, se	e lim_3dj_01_2403a				repalce	e it with 80 GHz,	see lim_3dj_01_2403a		
Proposed I	Response	Response Status W				Proposed I	Response	Response Status W		
-	OSED ACCEPT I re using the respo	N PRINCIPLE.				-	OSED ACCEPT re using the resp	IN PRINCIPLE. onse to comment #28.		
C/ 178	SC 178.9.2.2	P 278	L 31	# 240		C/ 178	SC 178.9.2.4	P 278	L 4	# 243
Li, Mike		Intel				Li, Mike		Intel		
Comment N is TE		Comment Status D			ERL	Comment T Nv is T	51	Comment Status D		Linear f
Suggested	Remedy					Suggested	Remedy			
repalce	e it with 400, see	lim_3dj_01_2403a				repalce	e it with 400, see	lim_3dj_01_2403a		
-	, OSED ACCEPT I	Response Status W IN PRINCIPLE. onse to comment #28.				-	Response OSED ACCEPT re using the resp	-		
C/ 178	SC 178.9.2.2	P 278	L 32	# 241		C/ 178	SC 178.9.2.4	P 279	L 4	# 30
Li, Mike		Intel				Mellitz, Ric	chard	Samtec		
Comment	Type TR	Comment Status D			ERL	Comment	Type TR	Comment Status D		Linear
Nbx is Suggested								bled from .3ck,. If loading ould remain unchanged. A		
00	2	m_3dj_01_2403a, lim_3dj_	01 2405			Suggested	Remedy			
Proposed I		Response Status W				Change	e Nv=TBD to Nv	/=400		
•	OSED ACCEPT I	,				Proposed I	Response	Response Status W		
-		onse to comment #28.				The co	OSED ACCEPT omment addressons is not obvio	es an open TBD and the s	uggested remedy	is reasonable, but
								ments on this topic. The e de deck URL/ran_3dj_01_		red a proposal in the
						For CR	G discussion.			

C/ 178 SC 178.9.2.4

C/178 S	SC 178.9.2.6	P 279	L 22	# 31	C/ 178	SC 178.9.3.3	P 281	L 41	# 32
Mellitz, Richar	ď	Samtec			Mellitz, Rid	chard	Samtec		
-	MR with loss o	Comment Status D correction factor		TX SNDR/SCMR			Comment Status D ilter should track fr which b	etwee 0.5 and 0.6	B-T filter BN has been shown in
SuggestedRen add + loss	-	ctor to equation 178-1			Suggested	Remedy			
	, ED ACCEPT I	Response Status W N PRINCIPLE. onse to comment #45.			Proposed	e TBD to 67GHz Response OSED ACCEPT	Response Status W		
	SC 178.9.3	P280	L9	# 244	-		onse to comment #60.		
_i, Mike	00 170.9.3	Intel	L 9	# 244	C/ 178	SC 178.9.3.3	P 282	L12	# 246
Comment Type dERL is Th		Comment Status D		ERL	Li, Mike Comment	51	Intel Comment Status D is not aligned with DER va		BER/FLI
SuggestedRen repalce it v	-	e lim_3dj_01_2403a			Suggested	IRemedy	IS NOT Alighed with DER Va	aue	
	ED ACCEPT I	Response Status W N PRINCIPLE. onse to comment #28.			Proposed PROP	OSED ACCEPT			
C/ 178 S	SC 178.9.3.3	P 281 Intel	L 40	# 245	The sa The re	ame value appea quired test perfo	es an inconsistency betweet rs in Table 179-11 for the transformed to be aligned rmance needs to be aligned	CR test. Table 176 d with the DER all	D-4 has TBD instead.
Comment Type 3dB BW is		Comment Status D		B-T filter BW	should Howev	to account for c	is on the suggested remed orrelated errors and the FE on is likely a move in the ri ed remedy, and add an ed	C symbol interleave ght direction.	ving scheme.
Rational, c	to 65 GHz.	e common and cost effective rement error, give rise to this		ector BW, and	the FE Apply Add a	C symbol error r similar changes	atio requirement need to b n Table 179–11 ote below table 176D-4 an	e verified and upda	ated as necessary.
Proposed Res	ponse	Response Status W			C/ 178	SC 178.9.3.3	P 282	L13	# 247
		N PRINCIPLE.			Li, Mike		Intel		
		onse to comment #60. Inged from 280 to 281]			Comment IL for (<i>Type</i> TR Class A PKG are	Comment Status D TBDs		RX ITOL/JTO
					Suggested	Remedy			
					For Te	st1, reaplce ther	n with IL(min): 13.5dB, Ilm 28.5; see li_3dj_01_2311,		
					Proposed		Response Status W	-	
					PROP	OSED ACCEPT			
		d ER/editorial required GR/	apporal require	L T/technical C/aditorial C/a	onoral		Cl	470	Page 77 of 137

TYPE: TR/technical required ER/editorial required GR/gener	C/ 178	Page 77 of 137				
COMMENT STATUS: D/dispatched A/accepted R/rejected	COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn					
SORT ORDER: Clause, Subclause, page, line						

C/ 178	SC 178.9.3.3	P 282	L15	# 248	Cl 178	SC 178.9.3.4	P 282	L 45	# 401
Li, Mike		Intel			Li, Tobey		MediaTek		
Comment	Type TR	Comment Status D		RX ITOL/JTOL	Comment	51	Comment Status D		RX ITOL/JTOL (bucket)
IL for (Class B PKG are	TBDs			"The te	est channel COM	, calculated per items 3) thro	ough 7) in 93C.2	2, is at least 3 dB"
Suggested	-				The re	ference to the te	st channel COM is wrong.		
		with IL(min): 10.5dB, Ilmax: 22.5; see li_3dj_01_2311, lus			Suggested	Remedy			
Proposed	-	Response Status W	5104_04j_02_201	1.901			hannel COM, calculated per	item e) through	h) in 178.9.3.3, is at
,	OSED ACCEPT.					B dB" to be correct	-		
01 470	CC 470 0 0 0	Daga	140	# 249	Proposed PROP	OSED ACCEPT	Response Status W		
C/ 178	SC 178.9.3.3	P282	L16	# 249	-		ed remedy with editorial licer	ise.	
Li, Mike Comment	Type TR	Intel Comment Status D		СОМ	C/ 178	SC 178.10	P 284	L11	# 250
	or test1 and test2			0011	Li, Mike		Intel		
Suggested	Remedv				Comment	Type TR	Comment Status D		COM
00	,	3, see lim_3dj_01_2405			COM(I	min) is TBD			
Proposed	Response	Response Status W			Suggested	lRemedy			
-	OSED ACCEPT I	-			Repale	ced both with 3 d	B, see lim_3dj_01_2405		
Resolv	e using the respo	onse to comment #250.			Proposed	Response	Response Status W		
C/ 178	SC 178.9.3.3	P 282	L16	# 400		OSED ACCEPT	IN PRINCIPLE. es an open TBD and the suge	acted remodu	ia raaaanahla, hut
Li, Tobey		MediaTek				nsus is not obvio		gested remedy	is reasonable, but
Comment	51	Comment Status D		СОМ			nents on this topic. The edito de deck URL/ran_3dj_01_240		ared a proposal in the
COM	alues in Table 17	'8û10 are TBD				RG discussion.			
Suggested	Remedy TBD with 3 dB				C/ 178	SC 178.10	P 284	L11	# 402
Proposed		Deserves Status W			Li, Tobey		MediaTek		
•	SED ACCEPT I	Response Status W			Comment	Type TR	Comment Status D		COM
		onse to comment #250.			Minim	um COM in Table	e 178û11 is TBD		
					Suggested	lRemedy			
					Replac	ce TBD with 3 dB	in Table 178-11 and in line 2	28 of page 284	
					Proposed	Response	Response Status W		
					-	OSED ACCEPT	-		
					Resol	ve using the resp	onse to comment #250.		

C/ 178 SC 178.10

C/ 178	SC 178.10	P 284	L11	# 33	C/ 178 SC 178.1	0 P284	L14	# 252
Mellitz, Richa	ard	Samtec			Li, Mike	Intel		
<i>Comment Ty</i> Use 3 dE		Comment Status D COM as in .3ck or		СОМ	Comment Type TR Channel ERL TBD	Comment Status D		ERL
SuggestedRe change T		e in 178.10.1 line 28)			SuggestedRemedy Repalced it with 11	dB, see oif2023.531.00		
	, SED ACCEPT	Response Status W IN PRINCIPLE. onse to comment #250.				Response Status W EPT IN PRINCIPLE. response to comment #28.		
C/ 178	SC 178.10	P 284	L12	# 251	C/ 178 SC 178.1	0.1 P284	L 27	# 359
Li, Mike		Intel			Healey, Adam	Broadcom In	с.	
Comment Ty	vpe TR	Comment Status D		Channel ILdd	Comment Type T	Comment Status D		COM methodology
28 dB, C 25 dB, C 22 dB, C	class A PKG pa class B PKG pa	airs with Class A PKG airs with Class B PKG airs with Class B PKG			worthwhile to add t	preted as requirements for recei- ext here clarifying that the param hat there is expected to be a vari erformance.	eters represent	a minimum level
	, SED ACCEPT	Response Status W IN PRINCIPLE. sonse to comment #34.			required transmitte	parameter values in the tables r and receiver performance and ails. Compliant implementations of performance. Similarly in 179	hey do not repre are only require	esent required to meet or exceed
C/ 178	SC 178.10	P 284	L12	# 34	Proposed Response	Response Status W		.4.1.
Mellitz, Richa Comment Ty reference	vpe TR	Samtec <i>Comment Status</i> D I lldd should reflect tp0d to tp	05d.	Channel ILdd (bucket)	PROPOSED ACCI Add the following n "NOTE—The parar	EPT IN PRINCIPLE.		
and TBD	emedy reference to 17) to 40 dB ate the referer				specifications in thi COM, a channel m receiver implement receiver implement	s clause. The purpose of these p etric, and they do not represent i ations. It is expected that a varie ation will be able to meet the PM o 179.11.7 and 176D.4.1.	parameters and requirements for ty of approache	values is to compute r transmitter and to transmitter and
Proposed Re		Response Status W			Auu similai notes t	יויס.וו.ו מווע וויסט.4.1.		
The obje Change is specifi	ective this claus			itional text to state that it	Implement with edi	torial license.		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 178 SC 178.10.1 Page 79 of 137 5/31/2024 10:47:12 AM

C/ 178 SC 178.10.1	P284 L28	# 253	C/ 178 SC 178.1	0.1 P285	L 28	# 119
i, Mike In	itel		Sakai, Toshiaki	Socionext		
Comment Type TR Comment Stat COM TBD	tus D	СОМ		Comment Status D ckage parameter vlaue. ss B package model Transmiss	sion line neramo	COM pkg tau (bucket
uggestedRemedy Repalced it with 3 dB, see lim_3dj_01_2	2405		4 ns/mm, but base	d on the adopted motion#10, No 41e-3. The value should be 6.14	ov/2024, llim_3d	
Proposed Response Response Stat	tus W		SuggestedRemedy			
PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment	t #250.		ns/mm.	e in Table 178-12 (class B pack	•	
C/ 178 SC 178.10.1	P285 L18	# 118	Proposed Response	Response Status W		
Sakai, Toshiaki So	ocionext			EPT IN PRINCIPLE.		
Comment Type T Comment Stat	tus D	COM pkg tau (bucket)		response to comment #118.		
COM reference package parameter vlau In "Table 178û12" class A package mod			C/ 178 SC 178.1	0.1 P285	L 31	# 357
6.141e-4 ns/mm, but based on the adop			Healey, Adam	Broadcom Ir	nc.	
(page8-9), the value is 6.141e-3. The val	liue should be 6.141e-3 ns/	/mm.	Comment Type T	Comment Status D		COM ref pkg (bucke
uggestedRemedy Change t(tau) value in Table 178-12 (cla	ass A package) from 6.141	e-4 ns/mm to 6.141e-3		e transmision line parameters fo baseline proposal li_3dj_01a_2		package model" do not
ns/mm. Or simply delete this row, as the t(tau) v	value in table 93A-3 is 6 14	le-3 ns/mm	SuggestedRemedy			
			Replace the charac	cteristic impedance for stage 1 v		nd the
	tus W		length/characterstic	c impedances for stage 2 throug		
Proposed Response Response Stat PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 12 each table).		Table 176D–6 (twice in	length/characterstic	nm respectively. Similarly in Tal Response Status W		
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 1 each table).		Table 176D–6 (twice in # 356	length/characterstic and 100 Ohm/0.5 r Proposed Response	nm respectively. Similarly in Tal <i>Response Status</i> W EPT.		
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 1: each table).	78–12, Table 179–15, and		length/characterstic and 100 Ohm/0.5 r Proposed Response PROPOSED ACCE	nm respectively. Similarly in Tal <i>Response Status</i> W EPT.	ble 179-15 and ⊺	Table 176D-6.
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 1 each table). 7 178 SC 178.10.1 Healey, Adam Br	78–12, Table 179–15, and <i>P</i> 285 <i>L</i> 19 roadcom Inc.		length/characterstic and 100 Ohm/0.5 r Proposed Response PROPOSED ACCE	nm respectively. Similarly in Tal <i>Response Status</i> W EPT. 0.1 <i>P</i> 285	ble 179-15 and ⊺	Table 176D-6.
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 1: each table). 7 178 SC 178.10.1 lealey, Adam Br	78–12, Table 179–15, and <i>P</i> 285 <i>L</i> 19 roadcom Inc. <i>itus</i> D arameter "tau" is set to 6.1	# 356 COM pkg tau (bucket) 41e-4. In the adopted	length/characterstic and 100 Ohm/0.5 r Proposed Response PROPOSED ACCE Cl 178 SC 178.1 Li, Tobey Comment Type TR Single-ended refere	nm respectively. Similarly in Tal Response Status W EPT. 0.1 P285 MediaTek	ble 179-15 and ⊺ <i>L</i> 38	Table 176D-6. # [<u>403</u> <i>R</i> _
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 17 each table). 178 SC 178.10.1 Healey, Adam Br comment Type T Comment State In Table 178-12, the transmission line pa baseline proposal li_3dj_01a_2311 (slide	78–12, Table 179–15, and <i>P</i> 285 <i>L</i> 19 roadcom Inc. <i>itus</i> D arameter "tau" is set to 6.1	# 356 COM pkg tau (bucket) 41e-4. In the adopted	length/characterstid and 100 Ohm/0.5 r Proposed Response PROPOSED ACCE Cl 178 SC 178.1 Li, Tobey Comment Type TR Single-ended refere SuggestedRemedy	nm respectively. Similarly in Tal Response Status W EPT. 0.1 P285 MediaTek Comment Status D ence resistance R0 value in Tab	ble 179-15 and ⊺ <i>L</i> 38	Table 176D-6. # [<u>403</u>
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 17 each table). 178 SC 178.10.1 lealey, Adam Br comment Type T Comment State In Table 178-12, the transmission line pa baseline proposal li_3dj_01a_2311 (slide	78–12, Table 179–15, and <i>P</i> 285 <i>L</i> 19 roadcom Inc. <i>itus</i> D arameter "tau" is set to 6.1 es 8 and 9), the value is sp '8-12 with the adopted valu	# 356 <i>COM pkg tau (bucket)</i> 41e-4. In the adopted becified to be 6.141e-3.	length/characterstid and 100 Ohm/0.5 m Proposed Response PROPOSED ACCE Cl 178 SC 178.1 Li, Tobey Comment Type TR Single-ended refere SuggestedRemedy Replace TBD with S Proposed Response	nm respectively. Similarly in Tal Response Status W EPT. 0.1 P285 MediaTek Comment Status D ence resistance R0 value in Tab 50 Ohm Response Status W	ble 179-15 and ⊺ <i>L</i> 38	Table 176D-6. # [<u>403</u>
PROPOSED ACCEPT IN PRINCIPLE. The value in D1.0 is a typo. Change 6.141e-4 to 6.141e-3 in Table 17 each table). Cl 178 SC 178.10.1 Healey, Adam Br <i>Comment Type</i> T Comment State In Table 178-12, the transmission line pa baseline proposal li_3dj_01a_2311 (slide SuggestedRemedy Replace the "tau" values in the Table 177	78–12, Table 179–15, and <i>P</i> 285 <i>L</i> 19 roadcom Inc. <i>itus</i> D arameter "tau" is set to 6.1 es 8 and 9), the value is sp '8-12 with the adopted value d Table 176D-6.	# 356 <i>COM pkg tau (bucket)</i> 41e-4. In the adopted becified to be 6.141e-3.	length/characterstic and 100 Ohm/0.5 r Proposed Response PROPOSED ACCE Cl 178 SC 178.1 Li, Tobey Comment Type TR Single-ended refere SuggestedRemedy Replace TBD with S Proposed Response PROPOSED ACCE	nm respectively. Similarly in Tal Response Status W EPT. 0.1 P285 MediaTek Comment Status D ence resistance R0 value in Tab	ble 179-15 and ⊺ <i>L</i> 38	Table 176D-6. # [<u>403</u>

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 178 SC 178.1	0.1 P28	35 L	38	# 254		C/ 178	SC 178.10.1	P 285	L 40	# 396
Li, Mike	Intel					Kocsis, Sa	n	Amphenol		
Comment Type TR Ro TBD	Comment Status	D			R_0	Comment 7 Rd(t) =	51	Comment Status D		COM R_c
SuggestedRemedy						Suggestedl	Remedy			
Repalced it w 50 ol	hm, see see lim_3dj_01	_2405, slide 5						hm" to match majority of co	ntributions to the	Task Force, and better
Proposed Response	Response Status	w				•	th Zc definition			
	EPT IN PRINCIPLE.					Proposed F	,	Response Status W		
Resolve using the	response to comment #3	5.				-	SED ACCEPT	IN PRINCIPLE. ments on this topic and diffe	rent values are s	undested
C/ 178 SC 178.1	0.1 P28	35 L	38	# 35		The ed	torial team prep	ared a proposal in the comm		
Mellitz, Richard	Samte	ec				URL/ra	n_3dj_01_2406			
Comment Type TR	Comment Status	D			R_0	C/ 178	SC 178.10.1	P 285	L 41	# 256
	omputation can be indepe					Li, Mike		Intel		
parameter can utili	ze any R0. For computat	ion purposes s-	-parameters	are converted	d to 50	Comment 1	vpe TR	Comment Status D		COMR
ohms which is the	native impedance for the	most common	test equipme							00111_0
ohms which is the SuggestedRemedy	native impedance for the	most common	test equipme			RD(R)	TBD			
SuggestedRemedy Change R0 for TBI	native impedance for the O to 50 ohms and add a n 50 ohm reference before o	ote indicating tl		ent.		RD(R) Suggestedl	TBD Remedy	m, see see lim_3dj_01_24	05, slide 5	
SuggestedRemedy Change R0 for TBI be converted into 5 Proposed Response PROPOSED ACCE	D to 50 ohms and add a n	ote indicating tl computation. W	he imported	ent. s-parameter a	are to	RD(R) Suggestedi Repalc Proposed F PROPC	TBD Remedy ed it w 46.25 oh Response DSED ACCEPT	m, see see lim_3dj_01_24 Response Status W IN PRINCIPLE.	05, slide 5	
SuggestedRemedy Change R0 for TBI be converted into 5 Proposed Response PROPOSED ACCE There are several of	D to 50 ohms and add a n 0 ohm reference before o <i>Response Status</i> EPT IN PRINCIPLE.	ote indicating the computation. W he editorial tea	he imported	ent. s-parameter a	are to	RD(R) Suggested Repaic Proposed F PROP(Resolv	TBD Remedy ed it w 46.25 oh Response DSED ACCEPT	m, see see lim_3dj_01_24 Response Status ₩	05, slide 5	
SuggestedRemedy Change R0 for TBI be converted into 5 Proposed Response PROPOSED ACCE There are several of	D to 50 ohms and add a n o ohm reference before o <i>Response Status</i> EPT IN PRINCIPLE. comments on this topic. T n slide deck URL/ran_3dj	ote indicating the optimation. W The editorial tea _01_2406.	he imported	ent. s-parameter a	are to	RD(R) Suggestedi Repaic Proposed F PROPO Resolve Cl 178	TBD Remedy ed it w 46.25 oh Response DSED ACCEPT e using the resp SC 178.10.1	m, see see lim_3dj_01_24 Response Status W IN PRINCIPLE. onse to comment #396. P285		# 397
SuggestedRemedy Change R0 for TBL be converted into 5 Proposed Response PROPOSED ACCE There are several of comment resolution	D to 50 ohms and add a n o ohm reference before o <i>Response Status</i> EPT IN PRINCIPLE. comments on this topic. T n slide deck URL/ran_3dj	ote indicating the optimation. W The editorial tea _01_2406.	he imported	ent. s-parameter a a proposal in	are to	RD(R) Suggested Repalc Proposed F PROPC Resolve C/ 178 Kocsis, Sa	TBD Remedy ed it w 46.25 oh Response DSED ACCEPT e using the resp SC 178.10.1 m	m, see see lim_3dj_01_24 Response Status W IN PRINCIPLE. onse to comment #396. P285 Amphenol		# 397
SuggestedRemedy Change R0 for TBL be converted into 5 Proposed Response PROPOSED ACCE There are several of comment resolution C/ 178 SC 178.1 Li, Mike Comment Type TR	D to 50 ohms and add a n 50 ohm reference before of <i>Response Status</i> EPT IN PRINCIPLE. comments on this topic. T n slide deck URL/ran_3dj 0.1 P28	ote indicating the editorial tea _01_2406.	he imported	ent. s-parameter a a proposal in # 255	are to	RD(R) Suggestedi Repaic Proposed F PROPO Resolve Cl 178	TBD Remedy ed it w 46.25 oh Response OSED ACCEPT e using the resp SC 178.10.1 m Type T	m, see see lim_3dj_01_24 Response Status W IN PRINCIPLE. onse to comment #396. P285		# 397
SuggestedRemedy Change R0 for TBI be converted into 5 Proposed Response PROPOSED ACCE There are several of comment resolution Cl 178 SC 178.1 Li, Mike Comment Type TR RD(T) TBD	D to 50 ohms and add a n 60 ohm reference before of <i>Response Status</i> EPT IN PRINCIPLE. comments on this topic. T n slide deck URL/ran_3dj 0.1 P28 Intel	ote indicating the editorial tea _01_2406.	he imported	ent. s-parameter a a proposal in # 255	are to the	RD(R) Suggestedi Repaic Proposed F PROPO Resolve CI 178 Kocsis, Sai Comment T	TBD Remedy ed it w 46.25 oh Response DSED ACCEPT e using the resp SC 178.10.1 m Type T "TBD"	m, see see lim_3dj_01_24 Response Status W IN PRINCIPLE. onse to comment #396. P285 Amphenol		
SuggestedRemedy Change R0 for TBL be converted into 5 Proposed Response PROPOSED ACCE There are several of comment resolution Cl 178 SC 178.1 Li, Mike Comment Type TR RD(T) TBD SuggestedRemedy	D to 50 ohms and add a n 60 ohm reference before of <i>Response Status</i> EPT IN PRINCIPLE. comments on this topic. T n slide deck URL/ran_3dj 0.1 P28 Intel	ote indicating the computation. W he editorial tea _01_2406. B5 L D	he imported m prepared	ent. s-parameter a a proposal in # 255	are to the	RD(R) Suggestedi Repaic Proposed F PROPO Resolve Cl 178 Kocsis, Sau Comment T RD(r) = Suggestedi Change	TBD Remedy ed it w 46.25 oh Response DSED ACCEPT e using the resp SC 178.10.1 m <i>SC</i> 178.10.1 m Type T "TBD" Remedy	m, see see lim_3dj_01_24 <i>Response Status</i> W IN PRINCIPLE. onse to comment #396. <i>P</i> 285 Amphenol <i>Comment Status</i> D hm" to match majority of comment status of comm	L 41	# 397 COM R_0
SuggestedRemedy Change R0 for TBL be converted into 5 Proposed Response PROPOSED ACCE There are several of comment resolution Cl 178 SC 178.1 Li, Mike Comment Type TR RD(T) TBD SuggestedRemedy	D to 50 ohms and add a n 50 ohm reference before of <i>Response Status</i> EPT IN PRINCIPLE. comments on this topic. T n slide deck URL/ran_3dj 0.1 P28 Intel <i>Comment Status</i>	ote indicating the operation. W The editorial tea _01_2406. B D _01_2405, slide	he imported m prepared	ent. s-parameter a a proposal in # 255	are to the	RD(R) Suggestedi Repaic Proposed F PROPO Resolve Cl 178 Kocsis, Sau Comment T RD(r) = Suggestedi Change	TBD Remedy ed it w 46.25 oh Response OSED ACCEPT e using the resp SC 178.10.1 m <i>SC</i> 178.10.1 m <i>TDP</i> TBD TBD Remedy e "TBD" to "92-o th Zc definition	m, see see lim_3dj_01_24 <i>Response Status</i> W IN PRINCIPLE. onse to comment #396. <i>P</i> 285 Amphenol <i>Comment Status</i> D hm" to match majority of comment status of comm	L 41	# 397 COM R_0

CI 178 SC	778.10.1	P 286	L11	# 360	C/ 178	SC 178.10.	1 P 28	6 L12	# 71
lealey, Adam		Broadcom Inc.			Lusted, Ker	t	Intel C	orporation	
Annex 178A frequency st (see, for exa	Any guidar tep, and simple, 178A cessary to ad	Comment Status D ita_f", and "M" are defined in ice on appropriate choices for ulation time step may be prov 1.3). The values for these pa d a rows for them to an alread	r measuremer rided in a gene rameters rare	nt start frequency, eral way in Annex 178A ly, if ever, change and it	and 1.6 <i>SuggestedF</i> In table	M parameter IBASE-KR8 <i>Cemedy</i> 178-13, use t	PMDs are TBDs he COM parameter valu	E-KR1, 400GBAS	Multiple COM parameter SE-KR2, 800GBASE-KR4 .pdf slide 18, which are:
00	se paramete	ers from Table 178-13. Also r 7.	emove these p	parameters from Tables	$f_r = 0.5$ c(-3) = 0				
The suggest	D ACCEPT II ted remedy i nents sugges	Response Status W N PRINCIPLE. s reasonable, but consensus at changing M from TBD to 32 n.			c(-2) = 0 c(-1) = 0 c(0) = 1 c(1) = 0 A_v = 0 A_fe = 0) 413).413			
7 178 SC .i, Mike	778.10.1	P 286 Intel	L12	# 257	A_ne = eta_0 = SNR_T2	6e-9 <			
comment Type fr TBD cuggestedReme Repaired it v	,	Comment Status D		COM f_r	A_DD = R_LM = d_w = 5 Nfix = 1	0.95			
Proposed Respo PROPOSED The following https://www.	onse D ACCEPT II g presentatio ieee802.org	Response Status W N PRINCIPLE. on was reviewed by the task /3/dj/public/24_05/lim_3dj_01	orce at the Ma _2405.pdf		N_g = 0 N_f = 0 N_max b_max(b_min(1	= 0 I) = 0.85			
suggested re	emedy.	resentation do not provide su	fficient justifica	ation to support the	addition Proposed R	•	E = 0 (not enabled)		
	ng the respo	nse to comment #36. P 286 MediaTek	L12	# 404	PROPC The con consens	SED ACCEP ment addres sus is not obv		suggested remed	ly may be reasonable, but
SuggestedReme	edy	Comment Status D n fr value in Table 178-13 is ⁻	BD	COM f_r	comme The edit URL/rar	nts address s	ubsets of these parame	ters.	0
	onse D ACCEPT II	o Response Status W N PRINCIPLE. nse to comment #36.							

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 178 SC 178.10.1 Page 82 of 137 5/31/2024 10:47:12 AM

C/ 178	SC 178.10.	1 P 286	L12	# 36	C/ 178	SC 178.10.1	P 286	L14	# 258
Mellitz, Ric	chard	Samtec			Li, Mike		Intel		
Comment	Type TR	Comment Status D		COM f_r	Comment Typ	e TR	Comment Status D		COM TxFFE
		entations so far have used fr of			C(-3) not	needed			
		d cabling/connector modal phy asurements at 67 GHz. Set fr			SuggestedRe	medy			
•	0			achieve this.	Delete it,	see see lim	_3dj_01_2405, slide 5		
Suggested	e TBD to 0.6.				Proposed Rea	sponse	Response Status W		
Proposed I		Response Status W					IN PRINCIPLE.	force at the M	ov 2024 interim meeting
The co conser There	omment addres nsus is not obv are several cor	T IN PRINCIPLE. ses an open TBD and the con ious. nments on this topic. The edit slide deck URL/ran_3dj_01_24	orial team prepa		https://wv The comr suggeste	/w.ieee802.o nent and the d remedy.	rg/3/dj/public/24_05/lim_3dj_0 presentation do not provide s	1_2405.pdf	, ,
	RG discussion.				C/ 178	SC 178.10.1	P 286	L18	# 37
C/ 178	SC 178.10.	1 P 286	L13	# 405	Mellitz, Richa	rd	Samtec		
Li, Tobey		MediaTek			Comment Typ	e TR	Comment Status D		COM TxFFE
Comment	Type TR	Comment Status D		COM TxFFE		ions so for h ta is provide	ave not shown the need for Ta	FFE. Change	to no TXFFE until
	n the Table 17	and step size of transmitter eq 8û6 and thost in sub-clauses 1			Rx noise clear from	may suggest	a. a need for the TXFFE which be respective that the TX FFE is . Until Rx FFE noise is better of	not a zero sum	gain compared to the
00	,	3D with -0.06:0.02:0			SuggestedRe	medv			
		3D with 0:0.02:0.12			00	-),c(-2),c(-1), and c(1) to zero.	Set C(0) tp 1.	
		3D with -0.34:0.02:0			Proposed Rea		Response Status W		
	e 26 replace TE e 28 replace TE	3D with 0.5 3D with -0.2:0.02:0			•				
	•						ments on this topic. The edito	rial team prepa	red a proposal in the
Proposea I	Response	Response Status W							ieu a proposar in the
PROP	OSED ACCEP	Response Status W T IN PRINCIPLE. sponse to comment #37.					ide deck URL/ran_3dj_01_240		

C/ 178 SC 178.10.1

C/ 178	SC 178.	0.4	P286	L18	# 050	C/ 178	50	178.10.1		P 286	L 26	# 004
	30 176.	10.1		L 10	# 259		30	176.10.1			L 20	# 261
Li, Mike Comment	Type T R	Cor	Intel		COM TxFFE	Li, Mike Comment	Type	TR	Comment St	ntel		COM TxFFI
C(-2) T		001			OOM TXITE	C(0) T	,,	IIX	Common O			
Suggested	lRemedy					Suggested	Reme	dy				
	:0.02(min,m	· · · · ·					ce it w ee lim	,	405, slide 5.			
Proposed I	ee lim_3dj_ Doononoo		oonse Status W			Proposed			Response St	atus W		
The fol https:// The co sugges	/www.ieee8 omment and sted remedy	entation was 2.org/3/dj/p the present	s reviewed by the task ublic/24_05/lim_3dj_t ation do not provide s	01_2405.pdf	y 2024 interim meeting: tion to support the	The fo https:/ The co sugge	llowing /www.i ommen sted re	presentat eee802.org at and the p medy.	g/3/dj/public/24_	_05/lim_3dj_ not provide	_01_2405.pdf	y 2024 interim meeting: ion to support the
Resolv	/e using the	reponse to	comment #37.			C/ 178	SC	178.10.1		P 286	L 26	# 262
C/ 178	SC 178.	0.1	P 286	L 22	# 260	Li, Mike			I	ntel		
Li, Mike			Intel			Comment	Туре	TR	Comment St	atus D		COM TxFF
Comment		Con	nment Status D		COM TxFFE	C(1) T	BD					
C(-1) T Suggested Replac -0.4.0.1	lRemedy	ax, step),					ce it w 0.02 (r	nin,max, s	tep), 405, slide 5			
see se	ee lim_3dj_	01_2405, sl	ide 5			Proposed	Respo	nse	Response Sta	atus W		
The fol https:// The co sugges	OSED ACC llowing pres /www.ieee8 omment and sted remedy	EPT IN PRI entation was 2.org/3/dj/p the present	-	01_2405.pdf	y 2024 interim meeting: tion to support the	The fo https:/ The co sugge	llowing /www.i ommen sted re	eee802.org at and the p medy.	g/3/dj/public/24_	_05/lim_3dj_ not provide	01_2405.pdf	/ 2024 interim meeting: ion to support the

				-					
C/ 178 SC 178.10.1	P 286	L 32	# 264	C/ 178	SC	178.10.1	P 286	L 40	# 265
Li, Mike	Intel			Li, Mike			Intel		
Comment Type TR	Comment Status D		COM CTLE parameters	Comment	Туре	TR	Comment Status D		COM CTLE parameter
g2 inherited from 802.3	3ck, no simod support, not ap	proproaite		fz1,fz2	2 from 8	302.3ck, no	simod support, not approp	oroaite	
SuggestedRemedy				Suggested	dRemec	dy			
Replace them w	、 、				ce them				
-5 :0, 1 (min, max, step see lim_3dj_01_2405,					,	0 (fz1,fz2) 01_2405, s	slide 5		
Proposed Response	Response Status W			Proposed			Response Status W		
PROPOSED REJECT	•			•	•	REJECT.			
Resolve using the resp	onse to comment #263.			Resolv	ve using	g the respo	onse to comment #263.		
C/ 178 SC 178.10.1	P 286	L 32	# 263	C/ 178	SC	178.10.1	P 286	L 42	# 266
Li, Mike	Intel			Li, Mike			Intel		
Comment Type TR	Comment Status D		COM CTLE parameters	Comment	Туре	TR	Comment Status D		COM CTLE parameter
g1 inherited from 802.3	Bck, no simod support, not ap	proproaite		f1,fp2,	, fp3 fro	m 802.3ck	, no simod support, not ap	oroproaite	
SuggestedRemedy				Suggested	dRemec	dy			
Replace them w	,				ce them				
-15 :0, 1 (min, max, ste see lim_3dj_01_2405,						2.6562, fb/ 01_2405, s	/80 (fp1,fp2, fp3) slide 5		
Proposed Response	Response Status W			Proposed			Response Status W		
PROPOSED REJECT	•			,	•	REJECT.			
The following presenta	tion was reviewed by the task		May 2024 interim meeting:	-			onse to comment #263.		
	g/3/dj/public/24_05/lim_3dj_0 presentation do not provide s		fication to support the	C/ 178	SC	178.10.1	P 286	L 46	# 267
suggested remedy.				Li, Mike			Intel		
	ments on this topic. The edito de deck URL/ran_3dj_01_24		pared a proposal in the	Comment	Type	TR	Comment Status D		COM voltage parameter
For CRG discussion.					e, Ane	TBDs			
				Suggested	dRemec	dy			
				Replac	ce them	n w			
						0.608 V (A 01_2405, s	Av, Afe, Ane) slide 5		
				Proposed	Respor	nse	Response Status 🛛 🛛 🛛 🛛 🛛 🖉		
				-			N PRINCIPLE.		

C/ 178 SC 178.10.1	P 286	L 46	# 406	C/ 178	SC 178.10.1	P 286	L 50	# 268
₋i, Tobey	MediaTek			Li, Mike		Intel		
Comment Type T	Comment Status D		COM voltage parameters	Comment 7	Type TR	Comment Status D		COM T_
Transmitter differential p	beak output voltage in Table	178-13 is TBD		Tr TBD)			
SuggestedRemedy				Suggestedl	Remedy			
Replace Av with 0.413 N Replace Afe with 0.413	V				e it w 0.004 ns n_3dj_01_2405,	slide 5		
Replace Ane with 0.608				Proposed F	Response	Response Status W		
Proposed Response PROPOSED ACCEPT I Resolve using the respo	-			The fol https://	www.ieee802.org	IN PRINCIPLE. ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj. presentation do not provide	_01_2405.pdf	
C/ 178 SC 178.10.1	P 286	L 46	# 38		ited remedy.		Sumolent Justinee	ation to support the
Mellitz, Richard	Samtec			Resolv	e using the resp	onse to comment #39.		
Comment Type TR	Comment Status D		COM voltage parameters	C/ 178	SC 178.10.1	P 286	L 53	# 269
			k and to avoid the	Li, Mike		Intel		
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse	Response Status W IN PRINCIPLE. as an open TBD and the sugging gested in 5 comments (38,	ages use the 0	.3ck voltages. s reasonable. 434).	Comment 7 eta0 Suggestedl Replac see lim Proposed F PROPO	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT.	Comment Status D GHz slide 5 Response Status W	sk force at the Ma	COM eta
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse The same values are su	and Ane to 0.608 <i>Response Status</i> W IN PRINCIPLE. as an open TBD and the sugging uggested in 5 comments (38,	ages use the 0	.3ck voltages. s reasonable.	Comment 7 eta0 Suggestedl Replac see lin Proposed F PROPO The foll https://	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT. lowing presentat www.ieee802.org	Comment Status D GHz slide 5 <i>Response Status</i> W ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj	_01_2405.pdf	ay 2024 interim meeting:
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse The same values are su Implement the suggeste	and Ane to 0.608 <i>Response Status</i> W IN PRINCIPLE. Is an open TBD and the sugg loggested in 5 comments (38, ed remedy.	gested remedy i 267, 406, 417,	.3ck voltages. s reasonable. 434).	Comment 7 eta0 Suggested/ Replac see lin Proposed F PROPO The foll https:// The pre	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT. lowing presentat www.ieee802.org	Comment Status D GHz slide 5 <i>Response Status</i> W ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj eed on COM4.50draft3 usin	_01_2405.pdf g MLSE. The ML	ay 2024 interim meeting SE implementation
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse The same values are su Implement the suggeste Cl 178 SC 178.10.1 i, Tobey Comment Type TR	and Ane to 0.608 <i>Response Status</i> W IN PRINCIPLE. Is an open TBD and the sugg Iggested in 5 comments (38, ed remedy. <i>P</i> 286 MediaTek <i>Comment Status</i> D	gested remedy i 267, 406, 417, <i>L</i> 50	.3ck voltages. s reasonable. 434).	Comment 7 eta0 Suggested/ Replac see lin Proposed F PROPC The fol https:// The pre within t on the fol	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT. lowing presentat lowing presentation www.ieee802.org esentation is bas hat code is how critical eta0 para	Comment Status D GHz slide 5 <i>Response Status</i> W ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj ever tentative and has not b meter is therefore prematu	_01_2405.pdf g MLSE. The MLS been fully debugg ire.	ay 2024 interim meeting SE implementation ed. Making a decision
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse The same values are su Implement the suggeste Cl 178 SC 178.10.1 Li, Tobey Comment Type TR	and Ane to 0.608 <i>Response Status</i> W IN PRINCIPLE. IN PRINCIPLE and the sugg uggested in 5 comments (38, ad remedy. <i>P</i> 286 MediaTek	gested remedy i 267, 406, 417, <i>L</i> 50	.3ck voltages. s reasonable. 434). # 407	Comment 7 eta0 Suggested/ Replac see lin Proposed F PROPC The fol https:// The pre within t on the pre	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT. lowing presentat www.ieee802.org esentation is bas hat code is how critical eta0 para mment and the p	Comment Status D GHz slide 5 <i>Response Status</i> W ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj ied on COM4.50draft3 usin ever tentative and has not b	_01_2405.pdf g MLSE. The MLS been fully debugg ire.	ay 2024 interim meeting SE implementation ed. Making a decision
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse The same values are su Implement the suggested Cl 178 SC 178.10.1 Li, Tobey Comment Type TR Transmitter transition tir SuggestedRemedy	and Ane to 0.608 <i>Response Status</i> W IN PRINCIPLE. Is an open TBD and the sugg aggested in 5 comments (38, ed remedy. <i>P</i> 286 MediaTek <i>Comment Status</i> D me Tr value in Table 178-13	gested remedy i 267, 406, 417, <i>L</i> 50	.3ck voltages. s reasonable. 434). # 407	Comment 1 eta0 Suggestedl Replac see lin Proposed F PROPO The foil https:// The pre within t on the foi Sugges Althoug	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT. lowing presentat www.ieee802.org esentation is bas hat code is howe critical eta0 para mment and the p ted remedy. gh Straw Poll #7	Comment Status D GHz slide 5 Response Status W ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj ever tentative and has not b wheter is therefore prematu presentation do not provide in the May 2024 meeting s	_01_2405.pdf g MLSE. The ML peen fully debugg ire. sufficient justifica	ay 2024 interim meeting SE implementation ed. Making a decision ation to support the
SuggestedRemedy set Av and Afe to 0.413 Proposed Response PROPOSED ACCEPT I The comment addresse The same values are su Implement the suggeste Cl 178 SC 178.10.1 Li, Tobey Comment Type TR Transmitter transition tir	and Ane to 0.608 <i>Response Status</i> W IN PRINCIPLE. Is an open TBD and the sugg aggested in 5 comments (38, ed remedy. <i>P</i> 286 MediaTek <i>Comment Status</i> D me Tr value in Table 178-13	gested remedy i 267, 406, 417, <i>L</i> 50	.3ck voltages. s reasonable. 434). # 407	Comment 1 eta0 Suggested/ Replac see lin Proposed F PROPO The foll https:// The pre within t on the The col sugges Althoug C2C ar	Remedy e it w 5e-9 V^2/0 n_3dj_01_2405, Response DSED REJECT. lowing presentat www.ieee802.org esentation is bas hat code is how critical eta0 para mment and the p ted remedy. gh Straw Poll #7 nd C2M, CR/KR lues 5e-9 and 6e	Comment Status D GHz slide 5 <i>Response Status</i> W ion was reviewed by the ta g/3/dj/public/24_05/lim_3dj sed on COM4.50draft3 usin ever tentative and has not b imeter is therefore prematu presentation do not provide	_01_2405.pdf g MLSE. The ML been fully debugg ire. sufficient justificat howed consensus	ay 2024 interim meeting SE implementation ed. Making a decision ation to support the s for the value 1e-8 for

C/ 178 SC 178.1	0.1 P286	L 53	# 408	C/ 178	SC 178.10.1	P 287	L 8	# 272
i, Tobey	MediaTek			Li, Mike		Intel		
Comment Type TR	Comment Status D		COM eta0	Comment 7	Type TR	Comment Status D		Tx jitte
One sided noise sp	pectral density in Table 178-13	s TBD		ADD T	BD			
SuggestedRemedy				Suggested	Remedy			
Replace TBD with	6e-9 V^2/GHz				e it w 0.02 UI,	alida C		
Proposed Response	Response Status W			Proposed F	n_3dj_01_2405,			
PROPOSED REJE	-			,	SED ACCEPT	Response Status W		
Resolve using the	response to comment #269.			The fol	llowing presentat	tion was reviewed by the tas		ay 2024 interim meeting:
C/ 178 SC 178.1	0.1 P287	L 5	# 270			g/3/dj/public/24_05/lim_3dj_ presentation do not provide		ation to support the
_i, Mike	Intel				sted remedy.	presentation do not provide	sumcient justific	ation to support the
Comment Type TR	Comment Status D		TX SNDR/SCMR			onse to comment #236.		
SNRTX TBD				C/ 178	SC 178.10.1	P 287	L 9	# 273
SuggestedRemedy				Li, Mike		Intel		
Replace it w 33 dB see lim_3dj_01_24				Comment T	Type TR	Comment Status D		R_LI
-				RLM T	BD			
Proposed Response	Response Status W			RLM T Suggested				
Proposed Response PROPOSED ACCE The following prese	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta		ay 2024 interim meeting:	Suggested Replac	<i>Remedy</i> ce it w 0.95,			
Proposed Response PROPOSED ACCE The following prese https://www.ieee80	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj	_01_2405.pdf		Suggested Replac see lin	<i>Remedy</i> æ it w 0.95, n_3dj_01_2405,			
Proposed Response PROPOSED ACCE The following prese https://www.ieee80 The comment and suggested remedy.	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj the presentation do not provide	_01_2405.pdf		Suggested Replac see lin Proposed F	Remedy ce it w 0.95, n_3dj_01_2405, Response	Response Status W		
Proposed Response PROPOSED ACCE The following prese https://www.ieee80 The comment and suggested remedy.	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj the presentation do not provide	_01_2405.pdf		Suggested Replac see lin Proposed F PROPO	Remedy e it w 0.95, n_3dj_01_2405, Response OSED ACCEPT	Response Status W	sk force at the M	av 2024 interim meeting:
Proposed Response PROPOSED ACCE The following prese https://www.ieee80 The comment and suggested remedy.	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj. the presentation do not provide response to comment #45.	_01_2405.pdf		Suggested Replac see lin Proposed F PROPO The fol https://	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat /www.ieee802.or	Response Status W IN PRINCIPLE. tion was reviewed by the tas g/3/dj/public/24_05/lim_3dj_	_01_2405.pdf	, ,
Proposed Response PROPOSED ACCE The following prese https://www.ieee80 The comment and suggested remedy. Resolve using the	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj. the presentation do not provide response to comment #45.	_01_2405.pdf sufficient justifica	ation to support the	Suggested Replac see lin Proposed F PROPO The fol https:// The co	Remedy te it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or omment and the	Response Status W IN PRINCIPLE. tion was reviewed by the tas g/3/dj/public/24_05/lim_3dj_ presentation do not provide	_01_2405.pdf sufficient justific	ation to support the
Proposed Response PROPOSED ACCE The following prese https://www.ieee80 The comment and suggested remedy, Resolve using the C/ 178 SC 178.1	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj the presentation do not provide response to comment #45. 0.1 P287	_01_2405.pdf sufficient justifica	ation to support the	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable.	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy. Resolve using the in Cl 178 SC 178.1 Li, Mike	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj the presentation do not provide response to comment #45. 0.1 P287 Intel	_01_2405.pdf sufficient justifica	# 271	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy Resolve using the in Cl 178 SC 178.1 Li, Mike Comment Type TR	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj the presentation do not provide response to comment #45. 0.1 P287 Intel	_01_2405.pdf sufficient justifica	# 271	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable.	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy. Resolve using the in Cl 178 SC 178.1 Li, Mike Comment Type TR sigmaRJ TBD SuggestedRemedy Replace it w 0.01 L	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide response to comment #45. 0.1 P287 Intel Comment Status D	_01_2405.pdf sufficient justifica	# 271	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy Resolve using the in Cl 178 SC 178.1 Li, Mike Comment Type TR sigmaRJ TBD SuggestedRemedy Replace it w 0.01 L see lim_3dj_01_24	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide response to comment #45. 0.1 P287 Intel Comment Status D JI, 405, slide 5	_01_2405.pdf sufficient justifica	# 271	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy. Resolve using the following the following prese the comment and suggested remedy. Replace it w 0.01 L see lim_3dj_01_24 Proposed Response	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide response to comment #45. 0.1 P287 Intel Comment Status D JI, 405, slide 5 Response Status W	_01_2405.pdf sufficient justifica	# 271	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy. Resolve using the following the following prese Resolve using the following Resolve using th	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide response to comment #45. 0.1 P287 Intel Comment Status D JI, 405, slide 5	_01_2405.pdf sufficient justifica L7	# 2 <u>71</u> <i>Tx jitter</i>	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy Resolve using the in a sigma SC 178.1 i, Mike Comment Type TR sigma RJ TBD Suggested Remedy Replace it w 0.01 L see lim_3dj_01_24 Proposed Response PROPOSED ACCE The following prese https://www.ieee80	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide response to comment #45. 0.1 P 287 Intel Comment Status D JI, 405, slide 5 Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj	_01_2405.pdf sufficient justifica <i>L</i> 7 sk force at the Ma _01_2405.pdf	tion to support the # 271 <i>Tx jitter</i> Tx yitter	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested
Proposed Response PROPOSED ACCE The following prese https://www.ieee800 The comment and suggested remedy Resolve using the in Cl 178 SC 178.1 Li, Mike Comment Type TR sigmaRJ TBD SuggestedRemedy Replace it w 0.01 L see lim_3dj_01_24 Proposed Response PROPOSED ACCE The following prese https://www.ieee80	Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide response to comment #45. 0.1 P 287 Intel Comment Status D JI, 405, slide 5 Response Status W EPT IN PRINCIPLE. entation was reviewed by the ta 2.org/3/dj/public/24_05/lim_3dj, the presentation do not provide	_01_2405.pdf sufficient justifica <i>L</i> 7 sk force at the Ma _01_2405.pdf	tion to support the # 271 <i>Tx jitter</i> Tx yitter	Suggested Replac see lin Proposed F PROPC The fol https:// The co sugges remedy The sa	Remedy ce it w 0.95, n_3dj_01_2405, Response OSED ACCEPT llowing presentat www.ieee802.or mment and the sted remedy. Ho y is reasonable. ime value is sugg	Response Status W IN PRINCIPLE. tion was reviewed by the tag g/3/dj/public/24_05/lim_3dj_ presentation do not provide wever, the comment addres gested in 5 comments (273	_01_2405.pdf sufficient justific sses an open TBI	ation to support the D and the suggested

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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CI 178 SC 178.10.1	P 287	L 10	# 409	C/ 178	SC 178.10.1	P 287	L13	# 274
Li, Tobey	MediaTek			Li, Mike		Intel		
Comment Type TR Level separation mism	Comment Status D atch ratio RLM in Table 178-1	13 is TBD	R_LM	Comment Ty dw TBD	rpe TR	Comment Status D		COM ref Rx
SuggestedRemedy Replace TBD with 0.95	i			SuggestedR Replace	it w 6,			
Proposed Response	Response Status W			see IIm_ Proposed Re	_3dj_01_2405			
PROPOSED ACCEPT Resolve using the resp	IN PRINCIPLE. onse to comment #273.			, PROPO	, SED ACCEPT	Response Status W I IN PRINCIPLE. ation was reviewed by the task	force at the Ma	v 2024 intorim monting:
C/ 178 SC 178.10.1	P 287	L13	# 275	https://w	ww.ieee802.o	rg/3/dj/public/24_05/lim_3dj_()1_2405.pdf	, ,
Li, Mike	Intel				iment and the ed remedy.	presentation do not provide s	ufficient justifica	tion to support the
Comment Type TR Nfix TBD	Comment Status D		COM ref Rx	The follo Straw Po	wing straw po oll #7	oll was taken in the May 2024	-	
SuggestedRemedy						g the COM parameter values of JI C2M and AUI C2C (per lust		
Replace it w 24, see lim_3dj_01_2405,	slide 5			slides 3- Results	4) into the P8 (all): Y: 67, N:	02.3dj draft specification 0, A: 23		,
Proposed Response PROPOSED REJECT.				Change	d_w to 5 for C	sensus for d_w=5 for C2C and 22M and C2C, and add editor rg/3/dj/public/24_05/lusted_36	s note per slide 4	4 of
consensus is not obvic				C/ 178	SC 178.10.1	P 287	L15	# 276
	tion was reviewed by the task g/3/dj/public/24_05/lim_3dj_0		y 2024 interim meeting:	Li, Mike		Intel		
The comment and the suggested remedy.	presentation do not provide s	ufficient justifica		Comment Ty Ng TBD	rpe TR	Comment Status D		COM ref Rx
	ents with related reference re- ed together with this one. How parameters.			SuggestedR Replace see lim_		, slide 5		
				Proposed Re PROPO	•	Response Status W I IN PRINCIPLE.		

C/ 178 SC 1	78.10.1	P 287	L16	# 277	C/ 178 SC 178.10.1	P 287	L19	# 280
Li, Mike		Intel			Li, Mike	Intel		
Comment Type Nf TBD	TR Comme	nt Status D		COM ref Rx	Comment Type TR Wmin(j) TBD	Comment Status D		COM ref Rx
SuggestedRemedy Replace it w 5, see lim_3dj_0					SuggestedRemedy Replace it w -0.7, see lim_3dj_01_2405,	slide 5		
	e Respons CCEPT IN PRINCII the response to con				Proposed Response PROPOSED ACCEPT Resolve using the resp			
C/ 178 SC 1	78.10.1	P 287	L17	# 278	C/ 178 SC 178.10.1	P 287	L 20	# 281
Li, Mike		Intel			Li, Mike	Intel		
Comment Type Namx TBD	TR Comme	nt Status D		COM ref Rx	Comment Type TR bmaxTBD	Comment Status D		COM ref R
SuggestedRemedy Replace it w 60 see lim_3dj_0),				SuggestedRemedy Replace it w 0.85, see lim_3dj_01_2405,	slide 5		
	e Respons CCEPT IN PRINCII the response to con				Proposed Response PROPOSED ACCEPT Resolve using the resp	-		
C/ 178 SC 1	78.10.1	P 287	L18	# 279	C/ 178 SC 178.10.1	P 287	L 21	# 282
Li, Mike		Intel			Li, Mike	Intel		
Comment Type Wamx(j) TBD	TR Comme	nt Status D		COM ref Rx	Comment Type TR bminTBD	Comment Status D		COM ref Rx
SuggestedRemedy					SuggestedRemedy			
Replace it w 0. see lim_3dj_0					Replace it w 0.3, see lim_3dj_01_2405,	slide 5		
The comment a consensus is n There are seve	CCEPT IN PRINCI addresses an open ot obvious. ral comments on th ution slide deck UR	TBD and the sug	orial team prepar	reasonable, but ed a proposal in the	Proposed Response PROPOSED ACCEPT Resolve using the resp	-		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 178	SC 178.10.1	P 287	L 22	# 283	C/ 178	SC 1	78.10.2	P 287	L	# 42
Li, Mike		Intel			Mellitz, Ric	chard		Samtec		
Comment	Type TR	Comment Status D		COM ref Rx	Comment	Туре	TR	Comment Status D		Multiple COM parameters
no foal	toing tap coeffici	ient max limit								ers" are critical for making
Suggested		pating tap coefficeint max lim	t and cat it to 0.05					ations a have shown quit straw ballot to determin		Select values based on what
	n_3dj_01_2405,				Suggested	Remedy	,			
Proposed I	Response	Response Status W			use str Dw 4, (from the	following		
-	OSED ACCEPT re using the resp	IN PRINCIPLE. onse to comment #275.			Nfix 10 Ng 1, 2), 15, 24 2, 3				
C/ 178	SC 178.10.1	P 287	L 23	# 284	Nf 3, 4 Nmax	·, 5 40 60 12	20			
Li, Mike		Intel			Wmax	0,				
Comment	Type TR	Comment Status D		COM ref Rx			0. otherw 0.75 0 85			
no foal	toing tap coeffic	ient min limit			,	, .	,5 -0.75 -			
Suggested	Remedy				Proposed I	Respons	e	Response Status W		
	a new line for flon n_3dj_01_2405,	pating tap coefficeint min limit slide	and set it to -0.05		The su		remedy	does not propose an acti	onable (within	the draft) remedy. A
Proposed I PROP	Response OSED ACCEPT	Response Status W IN PRINCIPLE.						i is not valid. Ild preferably be backed	by technical ju	stification and not just straw
Resolv	e using the resp	onse to comment #275.			C/ 178	SC 1	78.10.2	P 287	L 5	# 41
					Mellitz, Ric	chard		Samtec		
					Comment	Туре	TR	Comment Status D		TX SNDR/SCMR
					SNR_1	TX can b	e SNDR	when loss correction is e	mployed	
					Suggested	Remedy	,			
					Chang	e TBD to	o 33.5 dE	3		
					Proposed I	Respons	e	Response Status W		
								N PRINCIPLE.		

C/ 178 SC 178.10.2	P 287	L 37	# 40	C/ 178A	SC 178A.1.5	P650	L 7	# 228
Mellitz, Richard	Samtec			Noujeim, Le	eesa	Google		
Comment Type TR	Comment Status D		Channel ILdd (bucket)	Comment T	уре т	Comment Status)	(bucke
	tion loss to include the pac	kage i.e TP0d to	o TP5d.		rt labels on Figu with the text on		tent with the cascad	e order implied in 178A-
SuggestedRemedy change TBD to 40 dB				Suggested	Remedy			
Proposed Response PROPOSED REJECT.	Response Status W			Alterna		Port 2" with "Port 1" an igure 178A-6 with a co rt 1 with Port 2.		
be a frequency-depende	s an open TBD, but the ILd ent mask. The suggested re			Proposed F	Response DSED ACCEPT	Response Status V	V	
inadequate.				The cor	mment correctly	points out that port or	lering conventions (1 is an input, 2 is an
C/ 178 SC 178.10.3	P 288	L 29	# 43		should be consi re 178A-6, label		hannel (optional)" a	s "Port 1" and label the
Iellitz, Richard	Samtec			output o	of the "Device te	ermination" as "Port 2".	(op.ioi.iai) a	
omment Type TR scale ERL parameter for	Comment Status D rm 0.3ck		ERL	"The po	ort order of the re	ce of 178A.1.5 to: esulting model is then i el (or the device packa		t 1 becomes the input to
uggestedRemedy				and por	rt 2 becomes the	e output of the device to		
in table 178-14 change 1 Tr 0.005 ns	TBD's as follows			Implem	ent with editoria	l license.		
11 0.005 115				01 1				
■x 0 GHz				C/ 178A	SC 178A.1.8	P654	L 42	# 209
?x 0.618				C/ 178A Shakiba, H			L 42 Technologies Cana	
?x 0.618 N 7000 UI	-				ossein		Technologies Cana	
?x 0.618 N 7000 UI roposed Response	Response Status W			Shakiba, H Comment 7	ossein Type T	Huawei	Technologies Cana	da
?x 0.618 N 7000 UI	N PRINCIPLE.			Shakiba, H Comment 7	ossein <i>Type</i> T nce to the wrong	Huawei Comment Status	Technologies Cana	da
?x 0.618 N 7000 UI Proposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment 7 Referer Suggestedf	ossein Type T nce to the wrong Remedy	Huawei Comment Status	Technologies Cana	da
?x 0.618 N 7000 UI roposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment T Referer Suggested Change Proposed F	ossein Type T Ince to the wrong Remedy The reference to se	Huawei Comment Status C section 178A.1.6.4 ection 178A.1.8.1 Response Status V	Technologies Cana	da
?x 0.618 N 7000 UI roposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment T Referer Suggested Change Proposed F	ossein Type T Ince to the wrong Remedy Pereference to se Response	Huawei Comment Status C section 178A.1.6.4 ection 178A.1.8.1 Response Status V	Technologies Cana	da
?x 0.618 N 7000 UI Proposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment T Referer Suggested Change Proposed R PROPC	ossein Type T nee to the wrong Remedy e reference to se Response DSED ACCEPT. SC 178A.1.9	Huawei Comment Status C section 178A.1.6.4 ection 178A.1.8.1 Response Status V P657	Technologies Cana	da <i>(bucke</i> # 2 <u>10</u>
?x 0.618 N 7000 UI Proposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment T Referer Suggested Change Proposed F PROPC C/ 178A Shakiba, H Comment T	ossein Type T nee to the wrong Remedy e reference to se Response DSED ACCEPT. SC 178A.1.9 ossein Type T	Huawei Comment Status C section 178A.1.6.4 ection 178A.1.8.1 Response Status V P657	Technologies Cana V L51 Technologies Cana	da <i>(bucke</i> # <u>210</u> da <i>(bucke</i>
?x 0.618 N 7000 UI roposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment T Referer Suggested Change Proposed F PROPC C/ 178A Shakiba, H Comment T	ossein <i>Type</i> T nce to the wrong Remedy e reference to se Response DSED ACCEPT. SC 178A.1.9 ossein <i>Type</i> T n equation (178A)	Huawei Comment Status section 178A.1.6.4 ection 178A.1.8.1 Response Status P657 Huawei Comment Status	Technologies Cana V L51 Technologies Cana	da <i>(bucke</i> # <u>210</u> da <i>(bucke</i>
?x 0.618 N 7000 UI roposed Response PROPOSED ACCEPT II	N PRINCIPLE.			Shakiba, H Comment T Referen Suggested Change Proposed R PROPO Cl 178A Shakiba, H Comment T h_ISI in Suggested	ossein <i>Type</i> T nce to the wrong <i>Remedy</i> e reference to se <i>Response</i> DSED ACCEPT. <i>SC</i> 178A.1.9 ossein <i>Type</i> T n equation (178A <i>Remedy</i>	Huawei Comment Status section 178A.1.6.4 ection 178A.1.8.1 Response Status P657 Huawei Comment Status	Technologies Cana V L51 Technologies Cana	da <i>(bucke</i> # <u>210</u> da <i>(bucke</i>

C/ 178A SC 178A.1.10	P 658	L 43	# 362	C/ 178A	SC ·	178A.1.11	P 660	L 27	# 286
lealey, Adam	Broadcom Inc.			Li, Mike			Intel		
comment Type T C	omment Status D		DER0	Comment	Туре	TR	Comment Status D	DM me	ethodology MLSD_PA
The relationship between "d				EQ (17	78A-36)				
ratio" is not documented and are related, they are not inte				Suggested	Remed	y			
has led to errors in the trans performance. This new anne	lation between COM resu ex gives us an opportunity	ults and expected to clarify the re	d (measured) receiver	suppor	rt data s	heet.	slide 4 of lim_3dj_02_2405	see also a mark	ed version in the
DER0 and other terms or to	replace DER0 with a more	re generally und	lerstood term.	Proposed I	•		Response Status W		
SuggestedRemedy			0011				NPRINCIPLE.	2024 interim mag	ting
Slide 5 of <https: www.ieee<br="">expressions for relationship</https:>							n was reviewed at the May 2 3/dj/public/24_05/lim_3dj_0		aung.
"DER0" with a target PAM-4	symbol error ratio (or bit	error ratio) and	adjust the equations	The m	odificati	ons to Equ	ations (178A-36) and (178A		uenced by the
for calculating COM according two terms.	ngly, or document the rela	ationship betwe	en DER0 and the other				#285 and #362. nse to comment #362.		
	sponse Status W			C/ 178A		178A.1.11	P660	L 27	# 211
PROPOSED ACCEPT IN P	, RINCIPLE.			Shakiba, H		170A.1.11		nologies Canada	<i>π</i> 211
The editorial team anonand			de dest.	Comment		т	Comment Status D	•	ethodology MLSD_PA
The editorial team prepared URL/ran_3dj_01_2406.	a proposar in the comme	ent resolution sil					n (178A-36) is specific to P/		••
C 178A SC 178A.1.10.2	P659	L12	# 285	equation	on is rev	written.	j_02_2405.pdf and shakiba	Ū	
i, Mike	Intel			Suggested				,	
Comment Type TR C	omment Status D		DER0	00			make it general. Note that	L=4 still vields 2	3. Please refer to
DER0 EQ is wrong					oution tb	· · ·		,	
uggestedRemedy				Proposed I	Respon	se	Response Status W		
change P(y0)= DER0 to 1-F	P(y0) =DER0, see slide 3	of lim_3dj_02_2	2405, see also a	PROP	OSED /	ACCEPT II	N PRINCIPLE.		
marked version in the suppo	ort data sheet.			The fo	llowing	contributio	n was reviewed at the May 2	2024 interim mee	tina:
	sponse Status W						3/dj/public/24_05/shakiba_3		ang.
PROPOSED ACCEPT IN P Resolve using the response	-			The	odificati	ono to Eau	ations (178A-36) and (178A	27) are also infl	uppood by the
Resolve using the response	to comment #362.						#285 and #362.	(-57) are also init	denced by the
				Resolv	ve using	the respo	nse to comment #362.		
				[Editor	's note:	changed s	ubclause to 178A.1.11.]		

C/ 178A	SC 178A.1.11	P 660	L 33	# 287	C/ 178A	SC 178A.1.11.1	P 660	L 52	# 213
Li, Mike		Intel			Shakiba, H	lossein	Huawei Tech	nologies Canada	
Comment T	ype TR	Comment Status D	DM n	nethodology MLSD_PAM	Comment	Type T Com	nment Status D		MLSD_PDF (bucket)
EQ (17	,					gh clear, the result of the been normalized to sat			a PDF and assumed
Suggested		slide 4 of lim_3dj_02_2405		rkad varaion in the	Suggested	Remedy			
•	data sheet.	Silde 4 01 III1_30j_02_2403	see also a ma		Either	mention that after convo	lution, the result sho	uld be normalized	, or add a
Proposed F	Response	Response Status W			normal	ization coefficient of 1/b	1 in font of conv.		
PROP(SED ACCEPT I	,			Proposed I	Response Resp	onse Status W		
Develo						DSED ACCEPT IN PRIN ge 660, line 52, change '			1)/lb1)" where let in
Resolve	e using the respo	onse to comment #362.				solute value of a.		5 conv[p(y), p(y)	or)/[br]) where [a] is
C/ 178A	SC 178A.1.11	P660	L 33	# 212		ation (178A-39), change			
Shakiba, H	ossein	Huawei Techr	ologies Canada	a		note that states that the that the scaled probabili	1 1 1 7 1 1		lable Y by a factor of
Comment T	туре т	Comment Status D	DM n	nethodology MLSD_PAM		nent with editorial license			
		on (178A-37), as is or rewritte dj_02_2405.pdf and shakiba			C/ 178A	SC 178A.1.11.1	P661	L1	# 214
Suggested	Remedy				Shakiba, H	lossein	Huawei Tech	nologies Canada	
Change	e 3/4 to (L-1)/L to	make it general. Note that L	=4 still yields 3	/4.Please refer to	Comment	Type T Com	nment Status D		MLSD_PDF (bucket)
contribu	ution tbd.					gh clear, the result of the			
Proposed F		Response Status W				ed to have been normal	ized to satisfy the PD	F sum requireme	nt.
PROPC	DSED ACCEPT I	N PRINCIPLE.			Suggested	•			an add a
The foll	owing contributio	ons were reviewed at the Ma	y 2024 interim r	neeting:		mention that after convo ization coefficient of 1/(1	,	ud be normalized	
		/3/dj/public/24_05/lim_3dj_0		-	Proposed I		onse Status W		
		//3/dj/public/24_05/shakiba_3 uations (178A-36) and (178A				OSED ACCEPT IN PRI			
respons	ses to comments	#285 and #362.	- ,	, , , , , , , , , , , , , , , , , , ,	Resolv	e using the response to	comment #213.		
Resolve	e using the respo	onse to comment #362.			C/ 179	SC 179.9.3	P 309	L14	# 387
[Editor's	s note: changed s	subclause to 178A.1.11.]			Kocsis, Sa	m	Amphenol		
					Comment	Type T Corr	ment Status D		R_0
					The ret spread	erence impedance shous sheets.	uld match the system	impedance, Rd a	as defined in COM
					Suggested	Remedy			
					92-ohn contrib	n, TBD, or straw poll bas utions	sed on proposed valu	es presented in T	ask Force
					Proposed I	Response Resp	onse Status W		
					-	OSED ACCEPT IN PRIMe using the response to	-		

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SC 179.9.3 5/31/2024 10:47:13 AM SORT ORDER: Clause, Subclause, page, line

C/ 179	SC 179.9.4	P 309	L23	# 388	C/ 179	SC 179.9.4	P 309	L23	# 225
Kocsis, Sa	m	Amphenol			Noujeim, L	_eesa	Google		
Comment	Туре Т	Comment Status D		B-T filter BW	Comment		Comment Status D		B-T filter BV
Suggested	-				filter ba		://www.ieee802.org/3/dj/pub) but D1.0 has 40GHz. 3dB		
"TBD"	as cited in other	places of the document			Suggested	Remedy			
The va	, OSED ACCEPT lue 40 GHz is a	Response Status W IN PRINCIPLE. leftover from an older clause ponse to comment #60.	and has not bee	n adopted.	Increas rolloff	se to 65GHz, con eg in https://www /www.ieee802.or	nsistent with test equipment i.ieee802.org/3/dj/public/23_ g/3/dj/public/24_01/benartsi_ Response Status W	11/weaver_3dj_0	01_2311.pdf and
C/ 179	SC 179.9.4	P309	L23	# 410	•	OSED ACCEPT			
Li, Tobey		MediaTek	L 23		The va	alue 40 GHz is a	leftover from an older clause onse to comment #60.	e and has not be	en adopted.
Comment	••	Comment Status D nson filter with 3 dB bandwidt		B-T filter BW	C/ 179	SC 179.9.4	P 309	L 44	# 511
		176D.3.3, and Annex 176E.3			Dawe, Pie	rs	Nvidia		
uggested	Remedy				Comment	Т <i>үре</i> т	Comment Status D		TX AC CM (bucke
	•	ther "TBD" or "62 GHz"			AC co	mmon-mode volt	ages are not as large as this	s in practice eve	,
Chang							ageo aro not ao largo ao ane		
Proposed I PROP	Response OSED ACCEPT	Response Status W			Suggested	Remedy	non-mode voltage limits for C		
Proposed I PROP The va	Response OSED ACCEPT lue 40 GHz is a	Response Status W IN PRINCIPLE. leftover from an older clause	and has not bee	n adopted.	Suggested	IRemedy e both AC comm			
Proposed I PROP The va Resolv	Response OSED ACCEPT lue 40 GHz is a e using the resp SC 179.9.4	Response Status W IN PRINCIPLE. leftover from an older clause ponse to comment #60. P309	and has not bee	n adopted. # 124	Suggestea Reduc Proposed I PROP The su	IRemedy e both AC comm Response OSED REJECT.	non-mode voltage limits for C Response Status W r does not propose an action	CR, KR, C2C and	d C2M.
roposed I PROP The va Resolv I 179 akai, Tos	Response OSED ACCEPT lue 40 GHz is a e using the resp SC 179.9.4 hiaki	Response Status W IN PRINCIPLE. leftover from an older clause bonse to comment #60.			Suggestea Reduc Proposed I PROP The su	IRemedy te both AC comm Response OSED REJECT. uggested remedy	non-mode voltage limits for C Response Status W r does not propose an action	CR, KR, C2C and	d C2M. draft) remedy. A
roposed I PROP The va Resolv I 179 Sakai, Tos	Response OSED ACCEPT lue 40 GHz is a re using the resp SC 179.9.4 hiaki Type T	Response Status W IN PRINCIPLE. leftover from an older clause oonse to comment #60. P309 Socionext	L 23	# 124	Suggestea Reduc Proposed I PROP The su questio Cl 179	Remedy the both AC comm Response OSED REJECT. uggested remedy on or call to action SC 179.9.4	non-mode voltage limits for C Response Status W r does not propose an action on is not valid. P309	CR, KR, C2C and	d C2M.
roposed I PROP The va Resolv / 179 akai, Tos omment Ttrans "Unles	Response OSED ACCEPT lue 40 GHz is a e using the resp SC 179.9.4 hiaki Type T mitter signal mea s specified other	Response Status W IN PRINCIPLE. leftover from an older clause oonse to comment #60. P309 Socionext Comment Status D asurement filter bandwidth de rwise, transmitter signal meas	L 23 escription. surements are m	# <u>124</u> <i>B-T filter BW</i> ade for each lane	Suggestea Reduc Proposed I PROP The su questio C/ 179 Dawe, Pie	Remedy the both AC comm Response OSED REJECT. uggested remedy on or call to action SC 179.9.4 rs	non-mode voltage limits for C <i>Response Status</i> W v does not propose an action n is not valid.	CR, KR, C2C and	d C2M. draft) remedy. A # <u>512</u>
Proposed I PROP The va Resolv 7 179 Sakai, Tos Comment Ttransu "Unles separa 40 GH:	Response OSED ACCEPT lue 40 GHz is a e using the resp SC 179.9.4 hiaki Type T mitter signal mea s specified other tely using a four z, with AC-coupl	Response Status W IN PRINCIPLE. leftover from an older clause bonse to comment #60. P309 Socionext Comment Status D asurement filter bandwidth de	L 23 escription. surements are m /-pass response e test equipmen	# <u>124</u> <i>B-T filter BW</i> ade for each lane with 3 dB bandwidth of t."	Suggestea Reduc Proposed I PROP The su questio C/ 179 Dawe, Pie Comment Supply	IRemedy the both AC comm Response OSED REJECT. uggested remedy on or call to action SC 179.9.4 rs Type TR y voltages and vo	non-mode voltage limits for C <i>Response Status</i> W r does not propose an action in is not valid. <i>P</i> 309 Nvidia	CR, KR, C2C and able (within the o	d C2M. draft) remedy. A # [<u>512</u> <i>Tx swing (bucke</i> . This 1200 mV max
C/ 179 C/ 179 C/ 179 C/ 179 C/ 179 Comment Comment Ttransu "Unles separa 40 GH: The 4: AN176	Response OSED ACCEPT lue 40 GHz is a e using the resp SC 179.9.4 hiaki Type T mitter signal mea s specified other tely using a four z, with AC-coupl th-BW filter BW E.3.3, as the Ny	Response Status W IN PRINCIPLE. leftover from an older clause sonse to comment #60. P309 Socionext Comment Status D asurement filter bandwidth de rwise, transmitter signal meas th-order Bessel-Thomson low led connection from TP2 to the	L23 scription. surements are m -pass response e test equipmen me as for CL178	# <u>124</u> <i>B-T filter BW</i> ade for each lane with 3 dB bandwidth of t." 3.9.2, AN176D.3.3 and	Suggestea Reduc Proposed I PROP The su questio C/ 179 Dawe, Pie Comment Supply	Remedy the both AC comm Response OSED REJECT. Uggested remedy on or call to action SC 179.9.4 rs Type TR y voltages and voot changed since	non-mode voltage limits for C Response Status W o does not propose an action in is not valid. P309 Nvidia Comment Status D oltage swing trend downward	CR, KR, C2C and able (within the o	d C2M. draft) remedy. A # <u>512</u> <i>Tx swing (bucke</i> . This 1200 mV max
PROPORED I PROPORED I The value Resolv I 179 Eakai, Tos Comment I Ttransi Unles separa 40 GHI The 41 AN176 Uggested Chang	Response OSED ACCEPT lue 40 GHz is a e using the resp SC 179.9.4 hiaki Type T mitter signal mea s specified other tely using a four z, with AC-coupl th-BW filter BW E.3.3, as the Ny Remedy e 40GHz to TBD	Response Status W IN PRINCIPLE. leftover from an older clause sonse to comment #60. P309 Socionext Comment Status D asurement filter bandwidth de rwise, transmitter signal meas th-order Bessel-Thomson low led connection from TP2 to th should be "TBD GHz", the sai quist frequency of the signal is	L23 scription. surements are m -pass response e test equipmen me as for CL178	# <u>124</u> <i>B-T filter BW</i> ade for each lane with 3 dB bandwidth of t." 3.9.2, AN176D.3.3 and	Suggestea Reduc Proposed I PROP The su questic Cl 179 Dawe, Pie Comment Supply has no Suggestea Reduc	IRemedy the both AC comm Response OSED REJECT. Uggested remedy on or call to action SC 179.9.4 rs Type TR y voltages and vo to changed since IRemedy to 1200 mV to e. 5.2. Reduce the	non-mode voltage limits for C Response Status W o does not propose an action in is not valid. P309 Nvidia Comment Status D oltage swing trend downward	CR, KR, C2C and able (within the o <i>L</i> 46 Is over the years ago. C2M has 7 eiver Table 179-	d C2M. draft) remedy. A # <u>512</u> <i>Tx swing (bucke</i> . This 1200 mV max 50 mV. 10 and in the text in
27070000000000000000000000000000000000	Response OSED ACCEPT lue 40 GHz is a te using the resp SC 179.9.4 hiaki Type T mitter signal mea s specified other tely using a four z, with AC-coupl th-BW filter BW E.3.3, as the Ny Remedy	Response Status W IN PRINCIPLE. leftover from an older clause oonse to comment #60. P309 Socionext Comment Status D asurement filter bandwidth de rwise, transmitter signal meas th-order Bessel-Thomson low led connection from TP2 to the should be "TBD GHz", the sat rquist frequency of the signal in O GHz. Response Status W	L23 scription. surements are m -pass response e test equipmen me as for CL178	# <u>124</u> <i>B-T filter BW</i> ade for each lane with 3 dB bandwidth of t." 3.9.2, AN176D.3.3 and	Suggestea Reduc Proposed I PROP The su questic Cl 179 Dawe, Pie Comment Supply has no Suggestea Reduc 179.9.	IRemedy se both AC comm Response OSED REJECT. Jggested remedy on or call to actic SC 179.9.4 rs Type TR y voltages and vo ot changed since IRemedy se 1200 mV to e. 5.2. Reduce the 2C.	non-mode voltage limits for C Response Status W r does not propose an action in is not valid. P309 Nvidia Comment Status D oltage swing trend downward 10GBASE-KR, a long time a	CR, KR, C2C and able (within the o <i>L</i> 46 Is over the years ago. C2M has 7 eiver Table 179-	d C2M. draft) remedy. A # <u>512</u> <i>Tx swing (bucke</i> . This 1200 mV max 50 mV. 10 and in the text in

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/g	general C/ 179	Page 94 of 137
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/w	ritten C/closed Z/withdrawn SC 179.9.4	4 5/31/2024 10:47:13 AM
SORT ORDER: Clause, Subclause, page, line		

C/ 179	SC 179.9.	4	P 310	L 27	# 513	C/ 179	SC 17	7 9.9.4 .1	.1
Dawe, Pie	ers		Nvidia			Mellitz, Ric	hard		
Comment	Type TR	Comm	ent Status D	T	x jitter, Tx SNDR (bucket)	Comment	Туре -	TR	Comment
					ased max host loss over	SNDR	reduces	with lo	ss and used th
					g SNDR doesn't work norizontal noise" act	Suggested	Remedy		
			of one goes with les			Insert	a subsect	tion e)	Loss correcti
Suggeste	dRemedy					presen	tation		
Delete	e the SNDR ar	nd jitter specs	. Add a VEC-like,	TDECQ-like sp	ec using this clause's	Proposed I	Response	e	Response
COM	reference rece	eiver which ca	an be implemented	in a scope. Sir	nilarly for KR and C2C.				IN PRINCIPL
Proposed	Response	Respon	se Status W						ition was revie rg/3/dj/public/2
-	POSED REJE	-							sentation high
			propose an actiona	able (within the o	draft) remedy. A				solution, but c
								rol com	
	on or call to a			surements are r	not feasible, which is not				
In add	lition, the com	ment includes			ot feasible, which is not	comme		ution sli	
In ado substa https:/	lition, the com antiated and is	ment includes contrasted b	s a claim that meas y existing contribut	tions, e.g.	not feasible, which is not _3dj_elec_01a_240104.	commo For CF	ent resolu G discus	ution sli ssion.	de deck ran_
In ado substa	lition, the com antiated and is	ment includes contrasted b	s a claim that meas y existing contribut	tions, e.g.		comme For CF C/ 179	ent resolu G discus SC 17	ution sli ssion.	ments on this ide deck ran_3
In add substa https:/ pdf.	lition, the com antiated and is	ment includes contrasted b 2.org/3/dj/publ	s a claim that meas y existing contribut	tions, e.g.		C/ 179 Mellitz, Ric	SC 17	ution sli ssion. 79.9.4. 1	ide deck ran_3
In add substa https:/ pdf.	lition, the com antiated and is //www.ieee802 SC 179.9.	ment includes contrasted b 2.org/3/dj/publ	s a claim that meas y existing contribut lic/adhoc/electrical/	tions, e.g. /24_0104/calvin	_3dj_elec_01a_240104.	C/ 179 Mellitz, Ric Comment	SC 17 SC 17 Shard	ution sli ssion. 79.9.4.1 T	de deck ran_3
In add subst https:, pdf. C/ 179 Mellitz, Ri	lition, the com antiated and is //www.ieee802 SC 179.9. chard	ment includes s contrasted b 2.org/3/dj/publ 4.1.1	s a claim that meas by existing contribut lic/adhoc/electrical/ P 312	tions, e.g. /24_0104/calvin	_3dj_elec_01a_240104.	C/ 179 C/ 179 Mellitz, Ric Comment scale N	SC 17 SC 17 hard Type	ution sli ssion. 79.9.4.1 T	de deck ran_3
In add substa https: pdf. C/ 179 Mellitz, Ri Comment The b	lition, the com antiated and is //www.ieee802 SC 179.9. chard Type TR aud rate has c	ment includes contrasted b 2.org/3/dj/publ 4.1.1 Common loubled from	s a claim that meas y existing contribut lic/adhoc/electrical/ P 312 Samtec ent Status D .3ck,. If loading is s	tions, e.g. /24_0104/calvin <i>L</i> 2 scaled down witi	_3dj_elec_01a_240104. # 44 <i>Linear fit</i> h the baud rate, the	Comme For CF C/ 179 Mellitz, Ric Comment scale N Suggested	SC 17 SC 17 Shard Type V from .3 Remedy	ution sli ssion. 7 9.9.4. 1 T 3ck	de deck ran_3
In add substa https: pdf. C/ 179 Mellitz, Ri Comment The b	lition, the com antiated and is //www.ieee802 SC 179.9. chard Type TR aud rate has c	ment includes contrasted b 2.org/3/dj/publ 4.1.1 Common loubled from	s a claim that meas y existing contribut lic/adhoc/electrical/ P 312 Samtec ent Status D	tions, e.g. /24_0104/calvin <i>L</i> 2 scaled down witi	_3dj_elec_01a_240104. # 44 <i>Linear fit</i> h the baud rate, the	Comme For CF C/ 179 Mellitz, Ric Comment scale N Suggested	SC 17 SC 17 hard Type	ution sli ssion. 7 9.9.4. 1 T 3ck	de deck ran_3
In add substa https:/ pdf. Cl 179 Mellitz, Ri Comment The b physic Suggested	lition, the com antiated and is //www.ieee802 SC 179.9. chard Type TR aud rate has c cal setting time dRemedy	ment includes contrasted b 2.org/3/dj/publ 4.1.1 Commo doubled from e would remai	s a claim that meas by existing contribut lic/adhoc/electrical/ P 312 Samtec ent Status D .3ck,. If loading is s in unchanged. Adju	tions, e.g. /24_0104/calvin <i>L</i> 2 scaled down wit ist Np and Dp a	_3dj_elec_01a_240104. # 44 <i>Linear fit</i> h the baud rate, the	Comme For CF C/ 179 Mellitz, Ric Comment scale N Suggested	SC 17 SC 17 SC 17 Shard Type V from .3 Remedy Nv to 40	ution sli ssion. 79.9.4. 1 T 3ck 00	.2 Comment
In add substa https:/ pdf. Cl 179 Mellitz, Ri Comment The b physic Suggested	lition, the com antiated and is //www.ieee802 SC 179.9. chard Type TR aud rate has c cal setting time dRemedy	ment includes contrasted b 2.org/3/dj/publ 4.1.1 Commo doubled from e would remai	s a claim that meas y existing contribut lic/adhoc/electrical/ P 312 Samtec ent Status D .3ck,. If loading is s	tions, e.g. /24_0104/calvin <i>L</i> 2 scaled down wit ist Np and Dp a	_3dj_elec_01a_240104. # 44 <i>Linear fit</i> h the baud rate, the	C/ 179 C/ 179 Mellitz, Ric Comment scale N Suggested change Proposed I PROP	SC 17 SC 17 Chard Type - Vy from .3 Remedy Ny to 40 Response OSED AC	r 9.9.4. 1 79.9.4.1 T 3ck 00 e CCEPT	Comment Response
In add substa https:, pdf. C/ 179 Mellitz, Ri Comment The b physic Suggested Chang	lition, the com antiated and is //www.ieee802 SC 179.9. chard Type TR aud rate has c cal setting time dRemedy	ment includes contrasted b 2.org/3/dj/publ 4.1.1 Comm doubled from e would remai 0 to 400. char	s a claim that meas by existing contribut lic/adhoc/electrical/ P 312 Samtec ent Status D .3ck,. If loading is s in unchanged. Adju	tions, e.g. /24_0104/calvin <i>L</i> 2 scaled down wit ist Np and Dp a	_3dj_elec_01a_240104. # 44 <i>Linear fit</i> h the baud rate, the	C/ 179 C/ 179 Mellitz, Ric Comment scale N Suggested change Proposed I PROP	SC 17 SC 17 Chard Type - Vy from .3 Remedy Ny to 40 Response OSED AC	r 9.9.4. 1 79.9.4.1 T 3ck 00 e CCEPT	I.2 Comment Response
In add substa https:	lition, the com antiated and is //www.ieee802 SC 179.9. chard Type TR aud rate has c cal setting time dRemedy ge Np from 20	ment includes contrasted b 2.org/3/dj/publ 4.1.1 Comm doubled from e would remai 0 to 400. chan Respon	s a claim that meas by existing contribut lic/adhoc/electrical/ P 312 Samtec ent Status D .3ck,. If loading is s in unchanged. Adju nge Dp from 4 to 8 use Status W	tions, e.g. /24_0104/calvin <i>L</i> 2 scaled down wit ist Np and Dp a	_3dj_elec_01a_240104. # 44 <i>Linear fit</i> h the baud rate, the	C/ 179 C/ 179 Mellitz, Ric Comment scale N Suggested change Proposed I PROP	SC 17 SC 17 Chard Type - Vy from .3 Remedy Ny to 40 Response OSED AC	r 9.9.4. 1 79.9.4.1 T 3ck 00 e CCEPT	Comment Response

C/ 179	SC	179.9.4.1.1	P3	12	L 42	# 45
Mellitz, Ri	chard		Samt	ec		
Comment	Туре	TR	Comment Status	D		TX SNDR/SCMR
SNDR	reduce	es with loss	and used that way	for ec	uation 178Aû18.	
Suggested	Reme	dy				
Insert preser		ection e) Lo	oss correction facto	or for	fitted pulse measur	rements. See
Proposed	Respo	nse	Response Status	w		
https:/ The co sugge There comm For Cl	/www.i ommen st a rea are se ent res RG diso	eee802.org/3 at and preser asonable sol veral comme solution slide cussion.	3/dj/public/24_05/n ntation highights ar ution, but consens ents on this topic. 1 deck ran_3dj_01_	nellitz n appa us is n The eo 2406-	arently valid issue, a not obvious. ditorial team prepar -comment_resoluti	and the presentation ed a proposal in the on_electrical.
C/ 179		179.9.4.1.2	P3		L 53	# 46
Mellitz, Ri	chard		Samt	ec		
Comment scale	<i>Type</i> Nv fron	T n .3ck	Comment Status	D		Linear fit
0						

e Status W

PLE.

C/ 179 SC 179.9.4.1.2 Page 95 of 137 5/31/2024 10:47:13 AM

C/ 179	SC 179.	.9.4.3	P 314	L 39	# 226
Noujeim, L	eesa		Google		
Comment	Туре Т	Cor	mment Status D		Tx SNR_IS
capabi		ver to compe	since hosts shouldn't b ensate; hosts in this ge		having reflections within d have equalization
Suggested	Remedy				
increas	se Nb to 20	(or TBD ba	sed on ref receiver cap	oabilities)	
Proposed I	Response	Res	ponse Status W		
The co from ca The co If it is a editor's needs	mment is r alculations mment and agreed that s note can b	of SNR_ISI. d suggested 6 is not the be added to (instead of d	remedy seem reasona right number, but there	able, but conse is no consens	nsus is not obvious.
C/ 179	SC 179.	.9.4.6	P 315	L15	# 514
Dawe, Pier	rs		Nvidia		
spec to	lained in ot	ther commer e link perforr	mment Status D nts, up to 3ck the SND mance - but we don't h sses, and separating th	R spec acted to ave a satisfact	
Suggested	Remedy				
			ld a VEC-like, TDECQ be implemented in a s		
Proposed I	Response	Res	ponse Status W		
PROP	OSED REJ	ECT.			
		medy does i action is no	not propose an actiona ot valid.	able (within the	draft) remedy. A
In addi substa	tion, the co	mment inclu		uromonto oro	not feasible, which is not

C/ 179	SC 179.9	.4.6	P 315	L17	# 47
Mellitz, Ric	chard		Samtec		
Comment	Type TR	Comn	nent Status D		TX SNDR/SCMR
SNDR	reduces with	n loss and use	ed that way for equ	uation 178Aû18.	
Suggested	Remedy				
change	e				
	ansmitter SN	DR is defined	I by the measurem	ent method descr	ibed in 120D.3.1.6
to					
		defined in xx		ient method descr	ibed in 120D.3.1.6 plus
Proposed I	Response	Respo	nse Status W		
PROP		, EPT IN PRINC			
Resolv	e using the r	response to c	omment #45		
C/ 179	SC 179.9	.4.7	P 310	L 25	# 204
Ran, Adee			Cisco		
Comment	Type TR	Comn	nent Status D		Tx jitter
	pecification i	s TBD.			
Jitter s					
	•				
Based	on	2 ora/3/di/put	lic/adhoc/electrica	al/24 0104/calvin	3di elec 01a 240104
Based https://	on /www.ieee80		blic/adhoc/electrica		3dj_elec_01a_240104. 3. and 120G

It is expected that the same method can be used for higher losses as long as the scope can maintain CDR lock.

This methodology should be used for all electrical interfaces, with adequate adjustments.

SuggestedRemedy

A detailed proposal will be provided.

Proposed Response Response Status W

PROPOSED REJECT.

The following presentation was reviewed by the task force in the May 2024 interm: https://www.ieee802.org/3/dj/public/24_05/ran_3dj_03_2405.pdf In addition, additional presentations related to jitter were: https://www.ieee802.org/3/dj/public/24_05/calvin_3dj_01b_2405.pdf https://www.ieee802.org/3/dj/public/24_05/zivny_3dj_01a_2405.pdf Resolve using the response to comment #236.

C/ 179 SC 179.9.4.7 Page 96 of 137 5/31/2024 10:47:13 AM

C/ 179	SC 179.9.4.		L 24	# 515	C/ 179	SC 179.9.4	4.8
Dawe, Pie		Nvidia			Mellitz, Ri		Sa
Comment	51	Comment Status D		Tx jitter (bucket)	Comment	51	Comment Stat
		ately to other impairments reli bservation point, and better th			scale	ERL paramete	er form 0.3ck
Suggested		beervation point, and better th	an what is need	su to make good miks.	Suggestee	-	
Delete	the jitter sectio	n. Add a VEC-like, TDECQ-li ich can be implemented in a s)05 ns	je TBD's as follows
Proposed I	Response	Response Status W			?x 0.0		
PROP	OSED REJECT	Г.			N 160		
		ly does not propose an action	able (within the d	lraft) remedy. A		Response	Response State
	on or call to acti tion, the comm	ent includes a claim that mea	surements are n	ot feasible, which is not	PROF	POSED ACCEI	PT IN PRINCIPLE.
substa	ntiated and is c	contrasted by existing contribu org/3/dj/public/adhoc/electrical	tions, e.g.			ssumed that, b ge Table 179-9	ased on the subclau
Note th		nce of contorlling jitter separat ww.ieee802.org/3/dj/public/24			Resol	lve using the re	esponse to comment
		0 71			C/ 179	SC 179.9.	5.3
C/ 179	SC 179.9.4.		L35	# 227	Mellitz, Ri	ichard	Sa
Noujeim, L	eesa	Google			Comment	Type TR	Comment Stat
	al test fixtures	Comment Status D may have discontinuities close					ed to be set to make is in 0.3ck and man
		terface). If the intent is to rem we should adjust the 0.2ns	iove the test fixtu	ire discontinuities from	Suggestee	dRemedy	
Suggested					set Co	OM to 3 dB	
00		equal to twice the delay betwe	en the test fixtu	e connector and the	Proposed	Response	Response State
test fix		g connection minus 0.2ns or a			-		PT IN PRINCIPLE.
Proposed I	,	Response Status W			C/ 179	SC 179.9.	5.3
-		T IN PRINCIPLE. ses an open TBD and the sug	aested remedy is	s reasonable, but	Li, Tobey		Me
	nsus is not obvi		gested remedy is		Comment	Type TR	Comment Stat
		nments on this topic. The edit lide deck URL/ran_3dj_01_24		ed a proposal in the	COM	values in Table	e 179û11 are TBD
	RG discussion.	IIde deck URL/Iall_30j_01_24	00.		Suggestee	dRemedy	
					Repla	ace TBD with 3	dB
					Proposed	Response	Response State
							PT IN PRINCIPLE.

PROP	OSED ACCEP	T IN PRINCIPLE.				
	sumed that, ba e Table 179-9.	ased on the subclause/p	bage/line, the	e suggeste	d remedy is asking to)
Resolv	e using the res	sponse to comment #28	3.			
C/ 179	SC 179.9.5	.3 P31	9	L 22	# 49	
Mellitz, Ric	chard	Samte	ec			
Comment	Type TR	Comment Status	D		C	сом
		d to be set to make pro s in 0.3ck and many ot	•		nprehensive proposa	l is
Suggested	Remedy					
set CO	M to 3 dB					
	, OSED ACCEP	Response Status T IN PRINCIPLE. sponse to comment #25				
PROP	, OSED ACCEP	T IN PRINCIPLE.	50.	L 22	# 411	
PROP Resolv	OSED ACCEP	T IN PRINCIPLE.	50. I 9	L 22	# [411	
PROP Resolv	OSED ACCEP re using the res	T IN PRINCIPLE. sponse to comment #25 3 P31	50. 1 9 Tek	L 22		сом
PROPORESOLV CI 179 Li, Tobey Comment T	OSED ACCEP re using the res SC 179.9.5	T IN PRINCIPLE. sponse to comment #25 .3 P31 Media	50. 1 9 Tek	L 22		сом
Cl 179 Cl 179 Li, Tobey Comment 7 COM v Suggested	OSED ACCEP re using the res SC 179.9.5 Type TR ralues in Table	T IN PRINCIPLE. sponse to comment #29 .3 P34 Media Comment Status 179û11 are TBD	50. 1 9 Tek	L 22		сом

P**315**

Samtec

Comment Status D

Response Status W

L**41**

48

ERL

C/ 179 SC 179.9.5.3

C/ 179	SC 470 0 5 0 0	D 220	L18	# [40]	C/ 179	SC 179.10.	D000	L 50	# 00
Li, Tobey	SC 179.9.5.3.3	Р 320 MediaTek	L 18	# 412	Mellitz, Ric		1 P286 Samtec	L 30	# 39
Comment 7	vpe TR	Comment Status D		B-T filter BW	Comment		Comment Status D		COM T r
	er Bessel-Thomson			B-1 liner BW			nderstand that this is not the T	r at TP0d.	COM 1_1
Suggested Replace	Re <i>medy</i> e TBD with 62 GHz	2			S <i>uggested</i> set Tr	<i>Remedy</i> to 0.00375 ns			
Proposed F	Response	Response Status W			Proposed I	Response	Response Status W		
	OSED ACCEPT IN e using the respons	PRINCIPLE. se to comment #60.			[Claus	e should be ch	T IN PRINCIPLE. anged to 179.10.1]		
C/ 179	SC 179.9.5.4.2	P323	L38	# 177		nsus is not obv	ses an open TBD and the sug ious.	igested remedy i	s reasonable, but
Ramesh, S	ridhar	Maxlinear Inc					mments on this topic. The edit		
Comment T	ype TR	Comment Status D		RX ITOL/JTOL		ent resolution s	lide deck ran_3dj_01_2406c	omment_resolut	ion_electrical.
Table 1	79-12: Jitter mask	extended below 40Khz and	d above 40MHz	for completeness	C/ 179	SC 179.11	P326	L 21	# 413
Suggested	Remedy					30 179.11		L Z I	# 413
Case A	- please amend to	o <= 0.04, Case F, please a	mend to >= 40		Li, Tobey		MediaTek Comment Status D		СОМ
Proposed F	Response	Response Status W			Comment Minimu	<i>Type</i> TR um COM is TB			COM
The co	mment does not pr	ovide sufficient justification	to support the	suggested remedy.	Suggested	Remedy			
Note th	at the jitter cases a	are matched to the expecte	d CDR bandwid	th which is matched to	Replac	ce TBD with 3 of	B in Table 179û13 and in line	41 of page 330	
https://v the san	www.ieee802.org/3	ed by motion #7 in the May /dj/public/23_05/motions_3 ecifications, e.g., for 100 G 162–17.	Scwdfdj_2305.p	df). This bandwidth is		, OSED ACCEP	Response Status W T IN PRINCIPLE. sponse to comment #250.		
C/ 179	SC 179.9.5.5	P 324	L 5	# 219	C/ 179	SC 179.11	P326	L 21	# 50
Noujeim, Lo	eesa	Google			Mellitz, Ric	chard	Samtec		
Comment T		Comment Status D		ERL Tfx	Comment	Type TR	Comment Status D		СОМ
connec	tion (mating interfa	have discontinuities close ce). If the intent is to remo					d to be set to make progress. s in 0.3ck and many other prio		nprehensive proposal is
the ER	L calculations, we	should adjust the 0.2ns			Suggested	Remedy			
Suggested	•				set CC	OM to 3 dB			
test fixt		al to twice the delay betwee nnection minus 0.2ns or as RL result"			Proposed I PROP	,	Response Status W T IN PRINCIPLE.		
Proposed F		Response Status W			Resolv	ve using the rea	sponse to comment #250.		
	OSED ACCEPT IN e using the respons	PRINCIPLE. se to comment #227.							

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 179 SC 179.11 Page 98 of 137 5/31/2024 10:47:13 AM

C/ 179 SC 179.11.1	P 326	L 27	# 216	C/ 179	SC 179.11.1	P 326	L 27	# 516
Noujeim, Leesa	Google			Dawe, Pie	ers	Nvidia		
Comment Type T	Comment Status D	Non	ninal impedance (bucket)	Comment	Туре Т	Comment Status D	Λ	lominal impedance (bucket
assembly. The compon different nominal charac	or definition for the nominal ents (eg paddle card, twinax teristic impedances. There e of the cable assembly, sin- by cl 179.11.2-7.	within a cable is no need to sp	assembly may have becify the nominal	cable S <i>uggested</i> Delete	assembly with 95 dRemedy e "The nominal di	i ohm bulk cable and it pa fferential characteristic in	asses the spec - the spec - the spec - the spec - the spectrum s	
SuggestedRemedy						remaining sentence into	179.11.	
Remove "The nominal c	haracteristic impedance of t	he cable assem	bly is 100 ohms"		Response POSED ACCEPT	Response Status W		
Proposed Response	Response Status W			-		onse to comment #216.		
PROPOSED ACCEPT I It is important to define t	N PRINCIPLE. he reference impedance for	return loss spec	cifications etc., but as	C/ 179	SC 179.11.2	P 326	L 42	# 217
the comment correctly s Implement the suggeste	uggests, there is no need to	specify a nomir	nal value.	Noujeim,	Leesa	Google		
	a remeay.			Comment	Туре Т	Comment Status D		B-T filter BV
C/ 179 SC 179.11.1	P 326	L27	# 389	The m	naximum frequen	cy of 40GHz is is insuffici	ent for 200Gbps/	lane PAM4
	Amphenol			Suggestee	dRemedy			
Kocsis, Sam			ninal impedance (bucket)	Increa	ase to 65GHz, coi			nd demonstrated channel
Kocsis, Sam Comment Type T	Amphenol	Non	ninal impedance (bucket)	Increa rolloff	ase to 65GHz, cor eg in https://www	ieee802.org/3/dj/public/2	23_11/weaver_3c	lj_01_2311.pdf and
Kocsis, Sam Comment Type T Nominal characteristic ir SuggestedRemedy Contributions to the task the cable assembly is ~{	Amphenol Comment Status D npedance of the cable asse	<i>Non</i> mbly is "100-ohr	ninal impedance (bucket) m"	Increa rolloff https:/ Proposed PROF The va	ase to 65GHz, coi eg in https://www //www.ieee802.or <i>Response</i> POSED ACCEPT alue 40 GHz is a	r.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benar <i>Response Status</i> W IN PRINCIPLE. leftover from an older cla	23_11/weaver_3c rtsi_3dj_01_2401	lj_01_2311.pdf and .pdf OR change to TBD
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II	Amphenol Comment Status D npedance of the cable asse force have demonstrated th 22-ohm Response Status W N PRINCIPLE.	<i>Non</i> mbly is "100-ohr ne nominal chara	ninal impedance (bucket) m" acteristic impedance of	Increa rolloff https:/ Proposed PROF The vi Resol	ase to 65GHz, con eg in https://www //www.ieee802.or <i>Response</i> POSED ACCEPT alue 40 GHz is a ve using the resp	v.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benau <i>Response Status</i> W IN PRINCIPLE. leftover from an older cla onse to comment #60.	23_11/weaver_3c rtsi_3dj_01_2401 use and has not	lj_01_2311.pdf and .pdf OR change to TBD been adopted.
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II	Amphenol Comment Status D npedance of the cable asse force have demonstrated th 92-ohm Response Status W	<i>Non</i> mbly is "100-ohr ne nominal chara	ninal impedance (bucket) m" acteristic impedance of	Increa rolloff https:/ Proposed PROF The va Resolv	ase to 65GHz, coi eg in https://www //www.ieee802.or <i>Response</i> POSED ACCEPT alue 40 GHz is a ve using the resp SC 179.11.3	r.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benau <i>Response Status</i> W IN PRINCIPLE. leftover from an older cla onse to comment #60. P 327	23_11/weaver_3c rtsi_3dj_01_2401	lj_01_2311.pdf and .pdf OR change to TBD
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II It is understood that the to 92 Ohm. However, as noted in co	Amphenol Comment Status D npedance of the cable asse torce have demonstrated th 22-ohm Response Status W N PRINCIPLE. suggested remedy is to cha mment #216, there is no ne	<i>Non</i> mbly is "100-ohr ne nominal chara nge the nominal	ninal impedance (bucket) m" acteristic impedance of I impedance from 100	Increa rolloff https:/ Proposed PROF The vi Resol C/ 179 Noujeim, I	ase to 65GHz, con eg in https://www //www.ieee802.or <i>Response</i> POSED ACCEPT alue 40 GHz is a ve using the resp <i>SC</i> 179.11.3 Leesa	r.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benau <i>Response Status</i> W IN PRINCIPLE. leftover from an older cla onse to comment #60. P 327 Google	23_11/weaver_3c rtsi_3dj_01_2401 use and has not	Ij_01_2311.pdf and .pdf OR change to TBD been adopted. # 218
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II It is understood that the to 92 Ohm. However, as noted in co	Amphenol Comment Status D mpedance of the cable asse to force have demonstrated th 22-ohm Response Status W N PRINCIPLE. suggested remedy is to cha	<i>Non</i> mbly is "100-ohr ne nominal chara nge the nominal	ninal impedance (bucket) m" acteristic impedance of I impedance from 100	C/ 179 Noujeim, I Comment Connect	ase to 65GHz, con eg in https://www //www.ieee802.or <i>Response</i> POSED ACCEPT alue 40 GHz is a ve using the resp <i>SC</i> 179.11.3 Leesa <i>Type</i> T cal test fixtures metotion (mating inter-	r.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benau <i>Response Status</i> W IN PRINCIPLE. leftover from an older cla onse to comment #60. <i>P</i> 327 Google <i>Comment Status</i> D nay have discontinuities c	23_11/weaver_3c rtsi_3dj_01_2401 use and has not <i>L</i> 31 close to 0.2ns fror remove the test f	tj_01_2311.pdf and .pdf OR change to TBD been adopted. # 218 ERL Tf:
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II It is understood that the to 92 Ohm. However, as noted in co	Amphenol Comment Status D npedance of the cable asse torce have demonstrated th 22-ohm Response Status W N PRINCIPLE. suggested remedy is to cha mment #216, there is no ne	<i>Non</i> mbly is "100-ohr ne nominal chara nge the nominal	ninal impedance (bucket) m" acteristic impedance of I impedance from 100	C/ 179 Noujeim, I Comment Connect	ase to 65GHz, con eg in https://www. //www.ieee802.or <i>Response</i> POSED ACCEPT alue 40 GHz is a ve using the resp SC 179.11.3 Leesa <i>Type</i> T cal test fixtures m ction (mating inte RL calculations, v	r.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benar <i>Response Status</i> W IN PRINCIPLE. leftover from an older cla onse to comment #60. P327 Google <i>Comment Status</i> D nay have discontinuities corface). If the intent is to	23_11/weaver_3c rtsi_3dj_01_2401 use and has not <i>L</i> 31 close to 0.2ns fror remove the test f	tj_01_2311.pdf and .pdf OR change to TBD been adopted. # [<u>218</u> <i>ERL Tf:</i> n the host-facing
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II It is understood that the to 92 Ohm. However, as noted in co	Amphenol Comment Status D npedance of the cable asse torce have demonstrated th 22-ohm Response Status W N PRINCIPLE. suggested remedy is to cha mment #216, there is no ne	<i>Non</i> mbly is "100-ohr ne nominal chara nge the nominal	ninal impedance (bucket) m" acteristic impedance of I impedance from 100	Increa rolloff https:/ Proposed PROF The va Resolv C/ 179 Noujeim, I Comment Practic conne the EF Suggested Chang test fix	ase to 65GHz, con eg in https://www. //www.ieee802.or Response POSED ACCEPT alue 40 GHz is a ve using the resp SC 179.11.3 Leesa Type T cal test fixtures m con (mating inte RL calculations, w dRemedy ge text to "Tfx e	<pre>v.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benar Response Status W IN PRINCIPLE. leftover from an older cla onse to comment #60. P327 Google Comment Status D nay have discontinuities co rface). If the intent is to ve should adjust the 0.2ns qual to twice the delay be connection minus 0.2ns</pre>	23_11/weaver_3c rtsi_3dj_01_2401 use and has not <i>L</i> 31 close to 0.2ns from remove the test finds setween the test finds	tj_01_2311.pdf and .pdf OR change to TBD been adopted. # 218 ERL Tf2 n the host-facing ixture discontinuities from
Kocsis, Sam <i>Comment Type</i> T Nominal characteristic in <i>SuggestedRemedy</i> Contributions to the task the cable assembly is ~{ <i>Proposed Response</i> PROPOSED ACCEPT II It is understood that the to 92 Ohm. However, as noted in co	Amphenol Comment Status D npedance of the cable asse torce have demonstrated th 22-ohm Response Status W N PRINCIPLE. suggested remedy is to cha mment #216, there is no ne	<i>Non</i> mbly is "100-ohr ne nominal chara nge the nominal	ninal impedance (bucket) m" acteristic impedance of I impedance from 100	Increa rolloff https:/ Proposed PROF The via Resolv C/ 179 Noujeim, I Comment Practic conne the EF Suggestee Chang test fin discor	ase to 65GHz, con eg in https://www. //www.ieee802.or Response POSED ACCEPT alue 40 GHz is a ve using the resp SC 179.11.3 Leesa Type T cal test fixtures m ction (mating inte RL calculations, w dRemedy ge text to "Tfx e xture host -facing	<pre>v.ieee802.org/3/dj/public/2 g/3/dj/public/24_01/benar Response Status W IN PRINCIPLE. leftover from an older cla onse to comment #60. P327 Google Comment Status D nay have discontinuities co rface). If the intent is to ve should adjust the 0.2ns qual to twice the delay be connection minus 0.2ns</pre>	23_11/weaver_3c rtsi_3dj_01_2401 use and has not <i>L</i> 31 close to 0.2ns from remove the test finds setween the test finds	tj_01_2311.pdf and .pdf OR change to TBD been adopted. # 218 ERL Tf n the host-facing ixture discontinuities from

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C/ 179	SC 179.11.3	P 327	L34	# 390	C/ 179	SC 179.11.7	P331	L18	# 120
Kocsis, Sa	ım	Amphenol			Sakai, Tos	shiaki	Socionext		
Comment	Туре Т	Comment Status D		ERL (bucket)	Comment	Туре Т	Comment Status D		COM pkg tau (bucket)
Suggested	Remedy	ble assemblie sthat have CC . Historical precedent may no			In "Tat 6.141e	ble 179û15" clas e-4 ns/mm, but b	e parameter vlaue. (transmiss s A package model Transmiss ased on the adopted motion#1 6.141e-3. The value should be	sion line param 10, Nov/2024,	neter t(tau) value is (llim_3dj_01a_2311.pdf
Proposed I	Response	Response Status W			Suggested	IRemedy			
The co Note th	nat any content o	provide sufficient justification f the draft can be changed if			ns/mm	i.	Table 179-15 (class A packag ow, as the t(tau) value in table		
a numl	ber to TBD does	not move us forward.			Proposed	Response	Response Status W		
C/ 179 Mellitz, Ric	SC 179.11.3	P 327 Samtec	L 41	# 51	-	OSED ACCEPT /e using the resp	IN PRINCIPLE. onse to comment #118.		
Comment		Comment Status D		ERL	C/ 179	SC 179.11.7	P 331	L 28	# 121
	•••	led and cable length was sca	ale by a factor of	2 from .3ck. Adjust	Sakai, Tos	shiaki	Socionext		
ERL pa	arameters accord	lingly			Comment	Туре Т	Comment Status D		COM pkg tau (bucket
Tr 0.00 ■x 0 G ?x 0.6 N 4500)5 ns iHz 18	TBD's as follows <i>Response Status</i> W			6.141e (page8 Suggested	e-4 ns/mm, but b 3-9), the value is <i>IRemedy</i> je t(tau) value in	s B package model Transmiss ased on the adopted motion#1 6.141e-3. The value should be Table 179-15 (class B packag	10, Nov/2024, e 6.141e-3 ns/	(llim_3dj_01a_2311.pdf mm.
PROP	OSED ACCEPT	IN PRINCIPLE.					ow, as the t(tau) value in table	93A-3 is 6.14	1e-3 ns/mm.
Resolv	e using the respo	onse to comment #28.			Proposed	Response	Response Status W		
					-	OSED ACCEPT ve using the resp	IN PRINCIPLE. onse to comment #118.		
					C/ 179	SC 179.11.7	P331	L 42	# 414
					Li, Tobey		MediaTek		
					Comment Single	51	Comment Status D e resistance R0 value in Table	179û15 is TB	R_0
									D
					Suggested		Dhm		D

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C/ 179	SC 179.11.7	P331	L 43	# 52	C/ 179	SC 179.11.7	P 332	L12	# 415
Mellitz, Rich	hard	Samtec			Li, Tobey		MediaTek		
Comment T	Type TR	Comment Status D		R_0	Comment Typ	e TR	Comment Status D		COM f_r
		utation can be independent of			Receiver	3 dB bandwid	th fr value in Table 179û16 is	TBD	
		ny R0. For computation purp re impedance for the most co			SuggestedRe	medy			
SuggestedF					Replace 1	BD with 0.58	*fb		
Change	e R0 for TBD to s	50 ohms and add a note indio Im reference before computa		ted s-parameter are to		ED ACCEPT	Response Status W IN PRINCIPLE.		
Proposed R	Response	Response Status W			Resolve u	ising the resp	onse to comment #36.		
	DSED ACCEPT	IN PRINCIPLE. onse to comment #35.							
C/ 179	SC 179.11.7	P331	L 44	# 391					
Kocsis, Sar	m	Amphenol							
Comment T Rd(t) =		Comment Status D		COM R_d					
SuggestedF	Remedy								
	e "TBD" to "92-o ith Zc definition i	hm" to match majority of con n package	tributions to the	Task Force, and better					
Proposed R	Response	Response Status W							
	OSED ACCEPT e using the respo	IN PRINCIPLE. onse to comment #396.							
C/ 179	SC 179.11.7	P331	L 45	# 392					
Kocsis, Sar	m	Amphenol							
Comment T RD(r) =		Comment Status D		COM R_d					
SuggestedF	Remedy								
	e "TBD" to "92-o ith Zc definition i	hm" to match majority of con n package	tributions to the	Task Force, and better					
Proposed R	Response	Response Status W							
	DSED ACCEPT e using the respo	IN PRINCIPLE. onse to comment #396.							

C/ 179 SC 179.11.7

C/ 179	SC 179.11.7	P 332	L 12	# 70	C/ 179	SC 179.11.7	P 332	L12	# 53
Lusted, Ke	ent	Intel Corpor	ation		Mellitz, Ric	chard	Samtec		
Comment	Type TR	Comment Status D		Multiple COM parameters	Comment	Type TR	Comment Status D		COM f_
	OM parameter v 6TBASE-CR8 P	alues for the 200GBASE-CI MDs are TBDs	R1, 400GBASE-0	CR2, 800GBASE-CR4	on test	equipment and	ntations so far have used fr o cabling/connector modal phy surements at 67 GHz. Set fr	/sics suggest a	t least a 9 dB loss is
Suggested	Remedy				-	-			o achieve this.
		e COM parameter values fr g/3/dj/public/24_01/healey_		f slide 18, which are:	Suggested change	Remedy e TBD to 0.6.			
f_r = 0 c(-3) = c(-2) =	0 0				-	OSED ACCEPT	Response Status W IN PRINCIPLE. ponse to comment #36.		
c(-1) = c(0) =					C/ 179	SC 179.11.7	P 332	L13	# 416
c(1) =	0				Li, Tobey		MediaTek		
A_v = A_fe =					Comment	Type TR	Comment Status D		COM TxFFE
A_ne = eta_0 =	= 0.45 = 6e-9						nd step size of transmitter eq û7 and thost in sub-clauses		
_	ΓX = 33 _RJ = 0.01				Suggested	Remedy			
A_DD	= 0.02 = 0.95 5 10				On line On line On line	e 18 replace TBI e 22 replace TBI e 26 replace TBI	D with -0.06:0.02:0 D with 0:0.02:0.12 D with -0.34:0.02:0 D with 0.5 D with -0.2:0.02:0		
N_f = 0 N_max b_max b_min	x = 0 x(1) = 0.85				-	OSED ACCEPT	Response Status W IN PRINCIPLE. ponse to comment #37.		
additio	nally set MLSE	= 0 (not enabled)			C/ 179	SC 179.11.7	P 332	L 46	# 417
Proposed		Response Status W			Li, Tobey		MediaTek		
PROP	OSED ACCEPT		jested remedy m	ay be reasonable, but	Comment [®] Transr	51	Comment Status D peak output voltage in Table	e 179û16 is TBI	COM voltage parameters
	nsus is not obvic				Suggested	Remedy			
comm The ec	ents address sul	es a large set of COM paran osets of these parameters. pared a proposal in the com	-		Replac	e Av with 0.413 Afe with 0.413 Afe with 0.413	3 V		
	RG discussion.				Proposed I	Response	Response Status W		
					PROP	OSED ACCEPT	IN PRINCIPLE.		

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 179 SC 179.11	.7 P332	L 50	# 418	C/ 179	SC 179.11.7	P333	L 9	# 421
Li, Tobey	MediaTek			Li, Tobey		MediaTek		
Comment Type TR Transmitter transitior	Comment Status D n time Tr value in Table 179û16	is TBD	COM T_r	Comment Typ Number o		Comment Status D unit interval in Table 179û	16 is TBD	COM methodology
SuggestedRemedy Replace TBD with Tr	r = 4 ps			SuggestedRei Replace T	<i>medy</i> BD with 32			
Proposed Response PROPOSED ACCEF Resolve using the re	Response Status W PT IN PRINCIPLE. sponse to comment #39.				, ED ACCEPT	Response Status W IN PRINCIPLE. onse to comment #360.		
C/ 179 SC 179.11	.7 P332	L 53	# 419	C/ 179	SC 179.11.7	P333	L11	# 54
Li, Tobey	MediaTek			Mellitz, Richar	rd	Samtec		
Comment Type TR	Comment Status D		COM eta0	Comment Typ	e TR	Comment Status D		Multiple COM parameters
SuggestedRemedy	ctral density in Table 179û16 is	s TBD		critical for	making progi	y values the "Receiver disc ress. Many presentations a reems consistent or use str	have shown qui	te a variation. Select
Replace TBD with 6e	e-9 V^2/GHz			SuggestedRe	medy			
Proposed Response PROPOSED REJEC Resolve using the re	Response Status W CT. sponse to comment #269.			Dw 4, 6, c Nfix 10, 1	5, 24	e following		
C/ 179 SC 179.11	.7 P333	L 8	# 420	Ng 1, 2, 3 Nf 3, 4, 5				
₋i, Tobey	MediaTek			Nmax 40 (Wmax(j)=				
Comment Type TR Level separation mis	Comment Status D match ratio RLM in Table 1790	16 is TBD	R_LM	Wmin(-1,0 bmax(1) =	0,1)=0. otherw 0,5 0.75 0 8 0 -0,5 -0.75	5		
SuggestedRemedy Replace TBD with 0.	95			Proposed Res	ponse	Response Status W		
Proposed Response	Response Status W				ED REJECT. sing the resp	onse to comment #42.		
PROPOSED ACCEF Resolve using the re	PT IN PRINCIPLE. sponse to comment #273.			C/ 179A	SC 179A	P664	L	# 24
ů.				Liu, Cathy		Broadcom		
				Comment Typ Figure 179		Comment Status D re 179A-2 are not showing	completely in m	<i>(editorial)</i> y PDF file
				SuggestedRei	medy			
					ED ACCEPT	Response Status W IN PRINCIPLE. I license and discretion.		
TYPE: TR/technical reau	ired ER/editorial required GR	aeneral required	T/technical E/editorial G/	peneral		CI ·	179A	Page 103 of 137

TTFL. TR/technical required LR/eutonal required GR/gene	na required Thechinical Lifeutorial Gigeneral		Fage 103 01 137
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 179A	5/31/2024 10:47:13 AM
SORT ORDER: Clause, Subclause, page, line			

C/ 179A SC 179A.2	P662	L6710	# 56	C/ 179A	SC 179A.4	Ļ	P 663	L 50	# 524
Mellitz, Richard	Samtec			Dawe, Piers	6		Nvidia		
Comment Type TR	Comment Status D		93B (bucket)	Comment T	уре Т	Comment	Status D		Channel ILdo
-	with TP0d and TP5d is require	ed .				nnel" that include tor is part of the			out the connector, is not
SuggestedRemedy	('man OOD 4 and table OOD 4			SuggestedF		•		0	
Proposed Response PROPOSED ACCEPT	-	Define t more us	he recomme	TP0d to TP2 (the			de of the connector, or ector to TP2 is the HCB		
Annex 93B is irrelevant	t for CR. referenced anywhere in the c	traft nor in previor	us backplane PMD	Proposed R	esponse	Response S	Status W		
clauses 163 and 137. A diagram with the new	v test points exists in Figure 1 A.2 to Figure 179-2. Impleme	79–2 and can be i	referenced instead.	What is the con	rolled imped	e recommended ance PCB, devic	e package, an	d host connector	ential insertion loss of footprints (looking into ed in "mated state";
C/ 179A SC 179A.4	P663	L 44	# 585	both plu	ig and recept	icle.			
Ghiasi, Ali	Ghiasi Quantu	um/Marvell		The hos	t losses ado	pted are those of	f		
Comment Type T Host designated losses	Comment Status D s of 6.5, 11.5, and 16.5 are for	r TP0d to TP2	Channel ILdd	https://www.ieee802.org/3/dj/public/23_11/tracy_3dj_01a_2311.pdf, slide 12. This slide explicitly refers to "Device Package + Host PCB", which does not extend to TP2.					
SuggestedRemedy Move the losses to the Min host loss is the MC		bould be removed	4		ourposes, sir				P2 is not useful for host gn and is unknown at
Way loss is dependent.	Response Status W		4	C/ 179A	SC 179A.5	5	P 665	L 24	# 229
•				Noujeim, Le	esa		Google		
Proposed Response	•			,,	,00u		0		
Proposed Response PROPOSED REJECT. The host losses adopte	ed are those of			Comment T	ype T	Comment			(,
Proposed Response PROPOSED REJECT. The host losses adopte https://www.ieee802.org				Comment T	<i>ype</i> T g ILdd_(host			he link have the	Channel ILdd (bucket) same host
Proposed Response PROPOSED REJECT. The host losses adopte https://www.ieee802.org	ed are those of g/3/dj/public/23_11/tracy_3dj_			Comment T Doublin	ype T g ILdd_(host tions.			he link have the	()
Proposed Response PROPOSED REJECT. The host losses adopte https://www.ieee802.org	ed are those of g/3/dj/public/23_11/tracy_3dj_			Comment T Doublin designa SuggestedF Replace ILdd_(h	ype T g ILdd_(host- tions. Remedy e "2*ILdd_(ho	+TFmax) implies ost+TFmax)" with end2" or similar	both ends of t "ILdd_(host+t		same host
Proposed Response PROPOSED REJECT. The host losses adopte https://www.ieee802.org	ed are those of g/3/dj/public/23_11/tracy_3dj_			Comment T Doublin designa SuggestedF Replace ILdd_(h	ype T g ILdd_(host tions. Remedy e "2*ILdd_(ho ost+tFmax)_ rations in Ta	+TFmax) implies ost+TFmax)" with end2" or similar	both ends of t "ILdd_(host+t notation to acc	Fmax)_end1 +	same host

C/ 179A SC 179A.5

	P 667	L 32	# 586	C/ 179A SC 179A.7	7 P668	L9	# 215
Ghiasi, Ali	Ghiasi Quantu	um/Marvell		Noujeim, Leesa	Google		
Comment Type T Co	omment Status D		HCB and MCB	Comment Type T	Comment Status D		COM methodology
MCB via allowance and HCE	3 are TBD			TP0 and TP5 are no	ot the appropriate test points	for Annex 179A CC	DM
SuggestedRemedy				SuggestedRemedy			
See Ghiasi C2M May-24 pre	esentation			Change text to " be	etween TP0d and TP5d"		
MCB via = 0.8 dB HCB=3.8 dB to allow practic	al implementations			Proposed Response	Response Status W		
	sponse Status W			PROPOSED ACCE	PT IN PRINCIPLE. Inex 179A and the paramete	ra in Tabla 179 12	add rafaranaa naakaga
PROPOSED ACCEPT IN PF The following presentation w https://www.ieee802.org/3/dj The comment addresses an consensus is not obvious. For CRG discussion.	/as reviewed by the task j/public/24_05/ghiasi_3d	j_02a_2405.pdf	Ū	and device models t If the recommendati includes the packag Implement the sugg	o both sides of the channel f on here is to calculate COM es, then no package models ested remedy with the addition the models are concateneted	for the channel from need to be concate on of an exception	m TP0d to TP5d, which endated. that in calculation of
C/ 179A SC 179A.7	P668	L 9	# 393	models are excluded Implement with edited			
Kocsis, Sam	Amphenol			C/ 179A SC 179A.7		L12	# 57
Comment Type E Co	omment Status D		(editorial)	Mellitz, Richard	Samtec	L 12	# 57
"TP0 and TP5"				Comment Type TR	Comment Status D		СОМ
SuggestedRemedy Change to "TP0d and TP5d"				The COM values ne	ed to be set to make progres is in 0.3ck and many other		
J				procontou aco miat	io in olook and many outor p	Shor Standards	
6	sponse Status W			SuggestedRemedy			
Proposed Response Re PROPOSED ACCEPT IN PI	, RINCIPLE.			·			
Proposed Response Re	, RINCIPLE.			SuggestedRemedy	Response Status W		
Proposed Response Re PROPOSED ACCEPT IN PI	, RINCIPLE.			SuggestedRemedy set COM to 3 dB Proposed Response PROPOSED ACCE	Response Status W		
Proposed Response Re PROPOSED ACCEPT IN PI	, RINCIPLE.			SuggestedRemedy set COM to 3 dB Proposed Response PROPOSED ACCE	Response Status W PT IN PRINCIPLE.	L	# 25
Proposed Response Re PROPOSED ACCEPT IN PI	, RINCIPLE.			SuggestedRemedy set COM to 3 dB Proposed Response PROPOSED ACCE Resolve using the re	Response Status W PT IN PRINCIPLE. esponse to comment #250.	L	# 25
Proposed Response Re PROPOSED ACCEPT IN PF	, RINCIPLE.			SuggestedRemedy set COM to 3 dB Proposed Response PROPOSED ACCEL Resolve using the re C/ 179B SC 179B Liu, Cathy Comment Type E	Response Status W PT IN PRINCIPLE. esponse to comment #250. P670	L	# 25 (editorial)
Proposed Response Re PROPOSED ACCEPT IN PF	, RINCIPLE.			SuggestedRemedy set COM to 3 dB Proposed Response PROPOSED ACCEL Resolve using the re C/ 179B SC 179B Liu, Cathy Comment Type E	Response Status W PT IN PRINCIPLE. esponse to comment #250. P670 Broadcom Comment Status D	L	

		•••••••••	
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 179B	5/
SORT ORDER: Clause, Subclause, page, line			

CI 179B SC 179B P672 L #	26	C/ 179B	SC 179B.4.2	P673	L13	# 58
iu, Cathy Broadcom		Mellitz, Richa	ard	Samtec	:	
Comment Type E Comment Status D	(editorial)	Comment Ty	pe TR	Comment Status)	ER
Figure 179B-2 figure is not showing completely in my PDF file		scale ER	L parameter fo	rm 0.3ck		
SuggestedRemedy		SuggestedRe	emedy			
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement with editorial license and discretion.		Tr 0.005 ■x 0 GH: ?x 0.618 N 1600	ns z	TBD's as follows		
C/ 179B SC 179B.1 P669 L15 #	222	Tfx 0 tw 1				
Noujeim, Leesa Google		DER0 2e	-5			
Comment Type T Comment Status D Incorrect Annex reference 120G SuggestedRemedy Replace 120G with 176E	(bucket)	It is assu change T	ED ACCEPT I med that, base able 179B-1.	-		ted remedy is asking to
Proposed Response Response Status W		C/ 179B	SC 179B.4.6	P676	L26	# 224
PROPOSED ACCEPT.		Noujeim, Lee	esa	Google		
	223	Comment Ty SFPxxx i	pe T s unclear	Comment Status)	HCB and MCB (bucke
Noujeim, Leesa Google	d MCB (bucket)	SFPxxx i SuggestedRe	s unclear emedy	Comment Status		HCB and MCB (bucke ated test fixture"
Noujeim, Leesa Google Comment Type T Comment Status D HCB and Missing reference to Module compliance at TP1 and TP4 SuggestedRemedy Add "Module measurements for Modules specified in Annex 176E are made	d MCB (bucket)	SFPxxx i SuggestedRe Replace Proposed Re	s unclear e <i>medy</i> "The SFPxxx m	nated test fixture" with Response Status V	"The single-lane m	
Joujeim, Leesa Google Comment Type T Comment Status D HCB and Missing reference to Module compliance at TP1 and TP4 SuggestedRemedy Add "Module measurements for Modules specified in Annex 176E are made TP4 with test fixtures as specified in 179B.3.	d MCB (bucket)	SFPxxx i SuggestedRe Replace Proposed Re PROPOS	s unclear emedy "The SFPxxx m sponse	nated test fixture" with Response Status V N PRINCIPLE.	"The single-lane m	
Noujeim, Leesa Google Comment Type T Comment Status D HCB and Missing reference to Module compliance at TP1 and TP4 SuggestedRemedy Add "Module measurements for Modules specified in Annex 176E are made TP4 with test fixtures as specified in 179B.3. " Proposed Response Response Status W	d MCB (bucket)	SFPxxx i SuggestedRe Replace Proposed Re PROPOS In 179B r	s unclear emedy "The SFPxxx m <i>sponse</i> SED ACCEPT I replace SFPxx	nated test fixture" with <i>Response Status</i> V N PRINCIPLE. x with SFP112	"The single-lane m V	ated test fixture"
Noujeim, Leesa Google Comment Type T Comment Status D HCB and Missing reference to Module compliance at TP1 and TP4 SuggestedRemedy Add "Module measurements for Modules specified in Annex 176E are made TP4 with test fixtures as specified in 179B.3. "	d MCB (bucket)	SFPxxx i SuggestedRe Replace Proposed Re PROPOS In 179B r Cl 179B	s unclear emedy "The SFPxxx m sponse SED ACCEPT I replace SFPxx SC 179B.4.26	nated test fixture" with <i>Response Status</i> V N PRINCIPLE. x with SFP112 P676	"The single-lane m V L 41	, ,
Noujeim, Leesa Google Comment Type T Comment Status D HCB and Missing reference to Module compliance at TP1 and TP4 SuggestedRemedy Add "Module measurements for Modules specified in Annex 176E are made TP4 with test fixtures as specified in 179B.3. " Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. PROPOSED ACCEPT IN PRINCIPLE.	nd MCB (bucket) at TP1 and	SFPxxx i SuggestedRe Replace Proposed Re PROPOS In 179B r C/ 179B Mellitz, Richa Comment Ty	s unclear emedy "The SFPxxx m sponse SED ACCEPT I replace SFPxx SC 179B.4.26 ard	nated test fixture" with <i>Response Status</i> V N PRINCIPLE. x with SFP112 <i>P</i> 676 Samtec <i>Comment Status</i> D	"The single-lane m V L 41	ated test fixture" # <u>59</u>
Noujeim, Leesa Google Comment Type T Comment Status D HCB and Missing reference to Module compliance at TP1 and TP4 SuggestedRemedy HCB and HCB and<	nd MCB (bucket) at TP1 and	SFPxxx i SuggestedRe Replace Proposed Re PROPOS In 179B r C/ 179B Mellitz, Richa Comment Tyj At least t SuggestedRe	s unclear emedy "The SFPxxx m sponse SED ACCEPT I replace SFPxx SC 179B.4.26 ard pe TR he symbol rate	nated test fixture" with <i>Response Status</i> V N PRINCIPLE. x with SFP112 <i>P</i> 676 Samtec <i>Comment Status</i> D	"The single-lane m V L 41	ated test fixture"

C/ 179B SC 179B.4.26

	P680	L15	# 525	C/ 179C S	SC 179C.2.3	P688	L35	# 527
Dawe, Piers	Nvidia			Dawe, Piers		Nvidia		
omment Type T	Comment Status D		MDI references (bucket)	Comment Type	e T	Comment Status D		MDI references (bucket)
MDIs are mechanical entit and QSFP2 (SFF-TA-1027 200G-capable circuitry. Bu	7). Any "SFP224" would b	e an SFP2 mod	ule or cable end with		"the mechan I, not an MSA		anical spec is Sl	FF-TA-1027, QSFP2. It is
"QSFP224" and QSFP2.		i, not the circuity	y. Similarly for	SuggestedRen	•			
SuggestedRemedy				-		\" to "SFF-TA-1027".		
Correct the names. Add re	eferences to SFF-TA-101	1 which relates th	he names and specs	Proposed Res	ponse	Response Status W		
for the SNIA-SFF modules "solution".	s, and SFF-8665, which de	efines the compo	onents of a QSFPx			IN PRINCIPLE. onse to comment #506.		
Proposed Response F	Response Status W			C/ 179C S	SC 179C.2.4	P689	L35	# 528
PROPOSED ACCEPT IN There was broad consense		nos (part of bas	olino proposal)	Dawe, Piers		Nvidia		
currently in the draft as fol				Comment Type	e T	Comment Status D		MDI references (bucket
OSFP1600. Resolve using the respons					o QSFP-DD1 MSA docum		QSFP-DD160	0 is defined in the singular
/ 179C SC 179C.1	P 680	L17	# 526	SuggestedRen	nedy			
Dawe, Piers	Nvidia				he QSFP-DD Specification	1600 TBD MSA" to "the C ".	SFP-DD/QSFP	-DD800/QSFP-DD1600
Comment Type TR								
51	Comment Status D		MDI references (bucket)	Proposed Res	ponse	Response Status W		
Refer to the specification f	for each connector type wh	here each is first	()	PROPOSE	ED ACCEPT	IN PRINCIPLE.		
Refer to the specification f See another comment aga	for each connector type wh	here each is first	()	PROPOSE	ED ACCEPT			
Refer to the specification f See another comment aga	for each connector type wh	here each is first	()	PROPOSE Resolve us	ED ACCEPT	IN PRINCIPLE.	L21	# 529
Refer to the specification f See another comment aga SuggestedRemedy Per comment	for each connector type wh	here each is first	()	PROPOSE Resolve us	ED ACCEPT sing the resp	IN PRINCIPLE. onse to comment #506.	L 21	# 529
Refer to the specification f See another comment aga SuggestedRemedy Per comment	for each connector type wi ainst 1.3 for the reference Response Status W	here each is first	()	PROPOSE Resolve us C/ 179C S	ED ACCEPT sing the resp SC 179C.2.5	IN PRINCIPLE. onse to comment #506. P690	L 21	
Refer to the specification f See another comment aga uggestedRemedy Per comment roposed Response PROPOSED ACCEPT IN Resolve using the response	for each connector type wh ainst 1.3 for the reference Response Status W PRINCIPLE. se to comment #506.	nere each is first docs.	mentioned.	C/ 179C S Dawe, Piers Comment Type There is no	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600	IN PRINCIPLE. onse to comment #506. P690 Nvidia		MDI references (bucket
Refer to the specification f See another comment age SuggestedRemedy Per comment Proposed Response PROPOSED ACCEPT IN Resolve using the response Cl 179C SC 179C.1	for each connector type wi ainst 1.3 for the reference Response Status W PRINCIPLE. se to comment #506. P682	here each is first	()	C/ 179C S Dawe, Piers Comment Type There is no	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600 ment, particu	IN PRINCIPLE. onse to comment #506. P690 Nvidia Comment Status D TBD MSA document. OS		MDI references (bucket,
Refer to the specification f See another comment aga SuggestedRemedy Per comment Proposed Response PROPOSED ACCEPT IN Resolve using the response Cl 179C SC 179C.1 Kocsis, Sam	for each connector type wi ainst 1.3 for the reference <i>Response Status</i> W PRINCIPLE. se to comment #506. <i>P</i> 682 Amphenol	nere each is first docs.	mentioned. # <u>394</u>	C/ 179C S Dawe, Piers Comment Type There is no MSA docu SuggestedRen Change "th	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600 ment, particu nedy ne OSFP160	IN PRINCIPLE. onse to comment #506. P690 Nvidia Comment Status D TBD MSA document. OS ilarly section 4.	SFP1600 is defir P Octal Small Fo	MDI references (bucket, ned in the singular OSFP prm Factor Pluggable
Refer to the specification f See another comment aga SuggestedRemedy Per comment Proposed Response PROPOSED ACCEPT IN Resolve using the response C/ 179C SC 179C.1 Kocsis, Sam	for each connector type wi ainst 1.3 for the reference Response Status W PRINCIPLE. se to comment #506. P682	nere each is first docs.	mentioned.	Cl 179C S Dawe, Piers Comment Type There is no MSA docu SuggestedRen Change "tt Module sp	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600 ment, particu nedy ne OSFP160	IN PRINCIPLE. onse to comment #506. P690 Nvidia Comment Status D TBD MSA document. OS larly section 4.	SFP1600 is defir P Octal Small Fo	MDI references (bucket ned in the singular OSFP orm Factor Pluggable
Refer to the specification f See another comment age SuggestedRemedy Per comment Proposed Response PROPOSED ACCEPT IN Resolve using the response C 179C SC 179C.1 Kocsis, Sam Comment Type E "QSFP-DD800"	for each connector type wi ainst 1.3 for the reference <i>Response Status</i> W PRINCIPLE. se to comment #506. <i>P</i> 682 Amphenol	nere each is first docs.	mentioned. # <u>394</u>	Cl 179C S Dawe, Piers Comment Type There is no MSA docu SuggestedRen Change "tt Module sp	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600 ment, particu nedy ne OSFP160 ecification" c ecification".	IN PRINCIPLE. onse to comment #506. P690 Nvidia Comment Status D TBD MSA document. OS ilarly section 4.	SFP1600 is defir P Octal Small Fo	MDI references (bucket ned in the singular OSFP orm Factor Pluggable
Refer to the specification f See another comment age SuggestedRemedy Per comment Proposed Response PROPOSED ACCEPT IN Resolve using the response Cl 179C SC 179C.1 Kocsis, Sam Comment Type E	for each connector type wi ainst 1.3 for the reference Response Status W PRINCIPLE. se to comment #506. P682 Amphenol Comment Status D	nere each is first docs.	mentioned. # <u>394</u>	CI 179C S Dawe, Piers Comment Type There is no MSA docu SuggestedRen Change "th Module sp Module sp Proposed Res PROPOSE	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600 ment, particu nedy ne OSFP160 ecification" c ecification". ponse ED ACCEPT	IN PRINCIPLE. onse to comment #506. P690 Nvidia Comment Status D TBD MSA document. OS Ilarly section 4. 0 TBD MSA" to "the OSFP r "section 4 of the OSFP of Response Status W IN PRINCIPLE.	SFP1600 is defir P Octal Small Fo	MDI references (bucket ned in the singular OSFP orm Factor Pluggable
Refer to the specification f See another comment age SuggestedRemedy Per comment Proposed Response PROPOSED ACCEPT IN Resolve using the response of 179C SC 179C.1 Cocsis, Sam Comment Type E "QSFP-DD800" SuggestedRemedy Change to "QSFP-DD1600"	for each connector type wi ainst 1.3 for the reference Response Status W PRINCIPLE. se to comment #506. P682 Amphenol Comment Status D	nere each is first docs.	mentioned. # <u>394</u>	CI 179C S Dawe, Piers Comment Type There is no MSA docu SuggestedRen Change "th Module sp Module sp Proposed Res PROPOSE	ED ACCEPT sing the resp C 179C.2.5 e T o OSFP1600 ment, particu nedy ne OSFP160 ecification" c ecification". ponse ED ACCEPT	IN PRINCIPLE. onse to comment #506. P690 Nvidia Comment Status D TBD MSA document. OS Ilarly section 4. 0 TBD MSA" to "the OSFP r "section 4 of the OSFP of Response Status W	SFP1600 is defir P Octal Small Fo	MDI references (bucket ned in the singular OSFP orm Factor Pluggable

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 179C SC 179C.2.5 Page 107 of 137 5/31/2024 10:47:13 AM

CI 180 SC	C 180.4	P 349	L 10	# 146	C/ 180	SC 1	80.6.1	P353	L 33	# 326
Ghiasi, Ali		Ghiasi Quantu	m/Marvell		Welch, Bria	an		Cisco		
Comment Type	т	Comment Status D		Precoding	Comment 7	Гуре	TR	Comment Status D		TX spec
SuggestedReme The transm 120.5.7.2, a	edy iitter need to nd 173.5.7.2	on for PMA function to support supports 1/(1+D) mod 4 pred 2, 6 and 176.9.1.2, that may b	coding, as spec	ified in 135.5.7.2, isabled as needed with	Pave(m	nin) was rrowed te Q(min).	3dB, to o 2.5 dB	ie, 100GBASE-FR1) the diff reflect the case of infinite ex as it was not updated to refl	tinction ratio. In	the adopted baselines
mitigate bur	st error.	ptical transmitter should enab	ble 1/(1+D) mod	A precoding to		e chang		rage launch power, each lar	e (min)" in Tabl	e 180-7 from -2.8 dBm
	D ACCEPT	Response Status W N PRINCIPLE. onse to comment #21			Proposed F	Respons		Response Status W		
C/ 180 SC	C 180.4.1	P 350	L13	# 160				ootnote to the value "-2.8" or	the row for "Av	erage launch power,
Yu, Rang-chen		InnoLight						e following text: of –2.8 dBm corresponds to	an OMA of -0	8 dBm with an extinctior
Comment Type	ER	Comment Status D		Editorial (bucket)	ratio of	approxi	mately 1	0 dB or an OMA of -0.1 dBr		
A typo of 'L3	3' in figure 1	80-2, right side, 3rd channel o	output label.		approx	imately '	16 dB."			
SuggestedReme It should be					Implem	nent with	editoria	license.		
Proposed Respo		Response Status 🛛 🛛 🛛 🖤			C/ 180	SC 1	80.6.2	P 354	L35	# 517
		N PRINCIPLE.			Dawe, Pier	S		Nvidia		
		license and discretion.			Comment 7		т	Comment Status D		RX spec
								edged that single-lane PMDs much the same crosstalk a		
					Suggested	Remedy	,			
					receive	er sensiti	vity, add	aggressors needed for 200G "For a receiver in a multilan ified in Table 180-8."		
					Proposed F	Respons	e	Response Status W		
					The co	ncern ra	ised by t	N PRINCIPLE. he comment is relevant to m ed remedy with editorial licer		allel-fiber connectors.

C/ 180 SC 180.6.2

C/ 180 SC 180.6.3	B P356	L 47	# 127	C/ 180	SC 180.7.3	1.1 P360	L11	# 590
Johnson, John	Broadcom			Ghiasi, Ali		Ghiasi Quant	tum/Marvell	
Comment Type T	Comment Status D		power budget	Comment	Туре т	Comment Status D		Connector labeling
	pes not explicitly say what the p			To sup	port breakout,	loopback, and OAN/OLT conr	nectro should be	labled
	ference between Allocation for p makes it hard for average reade			Suggested	Remedy			
SuggestedRemedy			a no ponor saugon	DR2-2	connector sho	uld be labled as Tx1Tx2 I	Rx2Rx1	
	ootnote (b), "This value include	s an allocation of	of 0.1 dB for MPI and		OSED ACCEP	Response Status W T IN PRINCIPLE.		
Proposed Response	Response Status W					dification as proposed was no ng "OLT", it is necessary to su		
PROPOSED ACCEF	-					remedy with editorial license.		eu baseline.
Implement the sugge	ested remedy with editorial licen	se.		C/ 180	SC 180.7.3		L27	# 591
C/ 180 SC 180.6.3	B P356	L 47	# 170	Ghiasi. Ali		Ghiasi Quant		# 591
Yu, Rang-chen	InnoLight			Comment		Comment Status D		Connector labeling
Comment Type T	Comment Status D		power budget			loopback, and OAN/OLT conr	ectro should be	
Footnote b did not cla	arify what's the compisiton of to	tal 3.5dB alloca	tion for penalties.	Suggested				
SuggestedRemedy				00		uld be labled as Tx1Tx2Tx3Tx	1 Pv/Pv3P	
	"Allocations to penalties for DR D and MPI 0.1dB" to footnote b.		g penalties due to	Proposed I	Response	Response Status W		
Proposed Response	Response Status W			-		T IN PRINCIPLE.		
PROPOSED ACCEF					Ū	•		
Resolve using the re-	sponse to comment #127.			C/ 180	SC 180.7.3		L 46	# 592
C/ 180 SC 180.7.1	P 358	L 28	# 335	Ghiasi, Ali		Ghiasi Quant	tum/Marvell	
Ferretti, Vince	Corning			Comment	51	Comment Status D		Connector labeling
Comment Type TR	Comment Status D		optical channel specs	To sup	port breakout,	loopback, and OAN/OLT conr	ectro should be	labled
	ed fiber attenuation is only speci			Suggested	-			
meant to be used in 2	t specified for wavelengths betw xWDM applications	een 1260 nm a	nd 1310 nm and not	-	connector sho 7Rx6Rx5Rx4R	uld be labled as Tx1Tx2Tx3Tx x3Rx2Rx1	4Tx5Tx6Tx7Tx8	3
SuggestedRemedy				Proposed I		Response Status W		
,	2.B (dispersion unshifted) as a f	iber option.				T IN PRINCIPLE.		
Proposed Response	Response Status W					ponse to comment #590.		
	,							

PROPOSED ACCEPT.

C/ 180 SC 180.7.3.1.3

C/ 180	SC 180.7.3.2	P361	L 9	# 338	C/ 180	SC 180.7.3.4	P361	L 50	# 341
Lambert, A	Ingie	Corning			Lambert, Ang	ie	Corning		
Comment T	Туре Т	Comment Status D		IEC revision	Comment Typ	e T	Comment Status D		IEC revision
IEC 61	753-1-1 has been	superseded by IEC 61753-	-1.		IEC 6175	3-021-2 has b	een superseded by IEC 6175	3-021-02.	
Suggested	Remedy				SuggestedRe	medy			
Change	e "IEC 61753-1-1"	to "IEC 61753-1"			Change "I	EC 61753-02	1-2" to "IEC 61753-021-02".		
Proposed F	Response	Response Status W			Proposed Res	sponse	Response Status W		
Change		to "IEC 61753-1" and add					IN PRINCIPLE. onse to comment #339.		
		and passive components – o 1.3 Normative references		andard - Part 1:	C/ 180	SC 180.8.5	P364	L 23	# 1
C/ 180	SC 180.7.3.2	P361	L 9	# 339	Johnson, Joh	n	Broadcom		
Lambert, A		Corning	_0	<i>"</i> 000	Comment Typ	e T	Comment Status D		TDECG
Comment 7	0	Comment Status D		IEC revision			specifies ORL of 21.4dB be a	applied for TX t	esting. For 200GBASE-
		en superseded by IEC 617	53-021-02	ILO ICVISION	,	needs to be	15.1dB.		
Suggested		······			SuggestedRe	,			
00		-2" to "IEC 61753-021-02".					the list in 180.8.5: is as given in Table 180-6."		
Proposed F		Response Status W			Proposed Res		Response Status W		
'	OSED ACCEPT IN	,			, PROPOS	, ED ACCEPT	IN PRINCIPLE.		
		-2" to "IEC 61753-021-02" a	and add "IEC 61	753-021-02:2023, Fibre					
		rices and passive compone tic connectors terminated a					the list in 180.8.5: is as given in Table 180-7."		
		ent" to 1.3 Normative refere		action of calegory		t with editoria			
C/ 180	SC 180.7.3.3	P361	L 42	# 340					
Lambert, A	Angie	Corning							
Comment T		Comment Status D en superseded by IEC 6175	53 021 02	IEC revision					
			55-021-02.						
Suggested Change	2	-2" to "IEC 61753-021-02".							
Proposed F	Response	Response Status W							

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #339.

C/ 180	SC 180.8.5	P 364	L 23	# 17
LeChemin	ant, Greg	Keysight Tecl	hnologies	
Comment	Туре Т	Comment Status D		TDECO

The current method for optimizing the tap weighs of equalizer in the TDECQ reference receiver is described in clause 121.8.5. The equalizer tap coefficients are iteratively adjusted to effectively minimize the TDECQ penalty. Although not explicitly stated, one way to view this is that ANY combination of tap weights is valid and that ALL combinations should be tried to ensure the optimum tap weight combination is used when calculating TDECQ. As the equalizer length has been increased from 5 taps to 15 taps, the time required to verify all possible tap weights is likely problematic. This issue was managed in the 802.3 db project, where a 9 tap virtual equalizer is used for TDECQ. The following text was added to clause the definition of the TDECQ method: ôThe lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative calibrationö. Note that the MMSE optimization method is used in almost all TDECQ measurements performed today

SuggestedRemedy

Add the following text at line 36 (end of exceptions list): The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license. For CRG discussion.

C/ 180	SC 1	180.8.5	P364	• L:	39	# 324	
Welch, Br	ian		Cisco				
Comment	Туре	TR	Comment Status	כ		TDE	CQ
	nt baseli adopted		al is lacking tap weigl	nt restrictions,	which were indi	cated as TBD	
Suggested	dRemed	y					
Propo	se adop	ting the TI	DECQ tap weight rest	rictions as pre	sented in welch	_3dj_01_0524	
Proposed	Respon	se	Response Status	N			
meetir https:/ There	ng: //www.ie did not :	ee802.org	on was reviewed by th /3/dj/public/24_05/we e consensus relating n.	lch_3dj_01_24	l05.pdf		
C/ 180	SC 1	180.8.11	P36	5 L	51	# 518	
Dawe, Pie	ers		Nvidia				
Comment	Туре	т	Comment Status	D		RIN-O	MA
signal	ing rate"	: I believe	f the measurement ap this dates back at leasers that optimise the r	ast to the first F	ibre Channel, ~	1 Gb/s, long	

Gigabit Ethernet now uses 937.5 MHz, 75% of the signalling rate. Measuring a peaky noise spectrum in too much bandwidth gives a flattering average, which is not what we want.

SuggestedRemedy

Change the bandwidth for RIN measurement to be the same as the TDECQ receiver's BT4 filter (50% of signalling rate \sim 53.1 GHz) or 75%, or something in between.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

The following presentation was reviewed by the 802.3dj task force at the May Interim meeting:

https://www.ieee802.org/3/dj/public/24_05/johnson_3dj_03a_2405.pdf Implement suggested remedy stated in the presentation with editorial license.

C/ 180 SC 180.8.11

Comment Type T Comment Status D RIN-OMA Comment Status The required -3dB BW for the measurement system is not achievable with existing technology. (State of the art power meters with a maximum 120 GHz bandwidth, would require the bandwidth of the photodetetor to be substatially higher than 120 GHz to achieve the current system bandiwdth required for the test system, as defined in clause 52) SuggestedRemedy SuggestedRemedy The bandiwdth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec limits for RIN OMA may need adjustment to adapt to any changes in the test method Prop Proposed Response Response Status W	slope for 100 unbounded gestedReme In the FECi other non-Fl posed Respo PROPOSEE It is not appa	6.25 GBd m buffering re edy clauses, ins ECi PMD ar onse D REJECT.	Nvidia <i>Comment Status</i> D be for 113.4375 GBd is base nust match in absolute time quirement (or one jitter slope stead of 2e5/f, 0.05 UI, use 2 ad PMA clauses, use 1.8756 <i>Response Status</i> W	units (not UI) so e can be modifie 2.13e5/f, 0.053 L	that there is not an d in shape).
The required -3dB BW for the measurement system is not achievable with existing technology. (State of the art power meters with a maximum 120 GHz bandwidth, would require the bandwidth of the photodetetor to be substaitially higher than 120 GHz to achieve the current system bandiwdth required for the test system, as defined in clause 52) SuggestedRemedy The bandiwdth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec limits for RIN OMA may need adjustment to adapt to any changes in the test method Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518	If the rising I slope for 100 unbounded gestedReme In the FECi other non-FI posed Respo PROPOSEE It is not appa	LF jitter slop 6.25 GBd m buffering re edy clauses, ins ECi PMD ar onse D REJECT.	be for 113.4375 GBd is base nust match in absolute time quirement (or one jitter slope stead of 2e5/f, 0.05 UI, use 2 nd PMA clauses, use 1.8756	units (not UI) so e can be modifie 2.13e5/f, 0.053 L	95 UI pk-pk, the LF jitter that there is not an ed in shape).
technology. (State of the art power meters with a maximum 120 GHz bandwidth, would require the bandwidth of the photodetetor to be substaitially higher than 120 GHz to achieve the current system bandwidth required for the test system, as defined in clause 52) SuggestedRemedy The bandwidth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec limits for RIN OMA may need adjustment to adapt to any changes in the test method Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518	slope for 100 unbounded gestedReme In the FECi other non-Fl posed Respo PROPOSEE It is not appa	6.25 GBd m buffering re edy clauses, ins ECi PMD ar onse D REJECT.	nust match in absolute time quirement (or one jitter slope stead of 2e5/f, 0.05 UI, use 2 nd PMA clauses, use 1.875e	units (not UI) so e can be modifie 2.13e5/f, 0.053 L	that there is not an d in shape).
SuggestedRemedy The bandiwdth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec Imits for RIN OMA may need adjustment to adapt to any changes in the test method Prop Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518 —	In the FECi other non-Fl posed Respo PROPOSEI It is not appa	clauses, ins ECi PMD ar onse O REJECT.	nd PMA clauses, use 1.875e		JI. Or, here and in the
The bandiwdth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec Imits for RIN OMA may need adjustment to adapt to any changes in the test method Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518	other non-Fl posed Respo PROPOSEE It is not appa	ECi PMD ar onse D REJECT.	nd PMA clauses, use 1.875e		
limits for RIN OMA may need adjustment to adapt to any changes in the test method Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518	PROPOSED It is not appa	REJECT.	Response Status W		
Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518	It is not appa				
PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518		arent where			
			to apply the proposed chan does not provide sufficient of		
	1 80 SC	[;] 180.9.1	P366	L 31	# 342
	nbert, Angie		Corning		
	nment Type	т	Comment Status D		IEC revision
	IEC 60950-1	has been	superseded by IEC 62368-1		
	gestedReme	edy			
	Change "IEC	C 60950-1"	to "IEC 63268-1".		
The applied sinusoidal jitter is specified in 180.8.13.1. The values of overshoot/undershoot and transmitter power excursion of the stressed	posed Respo	onse	Response Status W		
receiver conformance signal are within the limits specified in Table 180-7. For a receiver in a multilane device, the OMA outer of the aggressor lanes is specified in			IN PRINCIPLE. to "IEC 62368-1".		
Table 180-8.	1 80 SC	; 180.10	P368	L11	# 521
Add a sinusoidal jitter section following 167.8.14.1 (but see next comment).	we, Piers		Nvidia		
Proposed Response Response Status W Corr	nment Type	т	Comment Status D		bit number (bucket)
	Bit number s	should mate	ch number of lanes		
The comment does not provide sufficient justification to support the suggested remedy. Sugg	gestedReme	edy			
	Change 1.9.	4 to 1.9.n.	Below, change 1.10.4 to 1.1	0.n. Similarly in	other clauses.
Prop	posed Respo	onse	Response Status W		
			IN PRINCIPLE.		
	Implement t	he suggeste	ed remedy with editorial lice	nse.	

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

	181.1	P 372	L16	# 4	C/ 181	SC 181.6.1	P378	L16	# 327
Johnson, John		Broadcom			Welch, Brian		Cisco		
Comment Type	τ Ο	Comment Status D		Editorial (bucket)	Comment Ty	be TR	Comment Status D		TX spec
	ith previous PM	181-1 is shown encompa IDs.	ssing the MDI la	yer, which isn't	Pave(mir) was 3dB, to wed to 2.6 d	s (ie, 400GBASE-FR4) the diff o reflect the case of infinite ex B as it was not updated to refl	tinction ratio. In	the adopted baselines
Shorten the F	PHY bracket to	exclude the MDI layer.			SuggestedRe	,			
Proposed Respor PROPOSED	onse Re ACCEPT IN P	esponse Status W RINCIPLE.			00	changing "A	verage launch power, each lan	e (min)" in Table	e 181-5 from -1.8 dBm
Implement th	ne suggested re	emedy with editorial licens	e.		Proposed Re	sponse	Response Status W		
C/ 181 SC	181.4	P 373	L33	# 145			T IN PRINCIPLE.		
Ghiasi, Ali		Ghiasi Quantu	m/Marvell		Resolve	using the res	ponse to comment #162		
Comment Type	T C	Comment Status D		Precoding	C/ 181	SC 181.6.1	P378	L16	# 162
Prior to 181.4	4 add section f	or PMA function to support	t precoder to m	itigate burst errors	Yu, Rang-ch	en	InnoLight		
SuggestedRemed	dy				Comment Ty	be TR	Comment Status D		TX spec
OLT, without mitigate burst Proposed Respor PROPOSED	t OLT the optica st error. onse Re O ACCEPT IN P	and 176.9.1.2, that may b al transmitter should enab esponse Status W RINCIPLE. e to comment #21			SuggestedRe With 'ON 181û5 sh Proposed Re	emedy Aout (min)'= ould be char sponse	a delta=3dB, assuming max. O 0.8dBm, then 'Average launch nged to -2.2dBm. <i>Response Status</i> W T IN PRINCIPLE.		ne (min) ' in Table
	181.6.1	P378	L13	# 6			sted remedy with editorial licer	ise.	
C/ 181 SC					01.404	SC 181.6.1	P378	L23	# 8
		Broadcom			C/ 181	SC 101.0.1			
Johnson, John	тс	Broadcom Comment Status D		TX specs			Broadcom	L Z J	
Johnson, John Comment Type	-		BD for 800GB		Johnson, Jol	in		223	
Johnson, John Comment Type Total average SuggestedRemed	e launch powei edy	Comment Status D (max) in Table 181-5 is T		SE-FR4-500.	Johnson, Jol <i>Comment Ty</i> Difference	in De T	Broadcom Comment Status D ower between any two lanes (-	TX spec
Johnson, John Comment Type Total average SuggestedRemed Replace TBD which is 4.9	e launch power edy D with a value e + 6 = 10.9 dB.	Comment Status D	ch power, each	SE-FR4-500. ane (max) + 6 dB,	Johnson, Jol <i>Comment Ty</i> Difference	n pe T e in launch p BASE-FR4-5	Broadcom Comment Status D ower between any two lanes (-	TX spec
Johnson, John Comment Type Total average SuggestedRemed Replace TBD which is 4.9 (clauses 122,	e launch power edy D with a value e + 6 = 10.9 dB. 2, 151).	Comment Status D (max) in Table 181-5 is T equal to the Average laund This methodology is con	ch power, each	SE-FR4-500. ane (max) + 6 dB,	Johnson, Jol Comment Ty Difference for 800G SuggestedRe Replace	n pe T e in launch p BASE-FR4-5 emedy TBD with a v	Broadcom Comment Status D ower between any two lanes (00. alue of OMAouter(max) minus	OMAouter) (max	TX spe () in Table 181-5 is TBI
Johnson, John Comment Type Total average SuggestedRemed Replace TBD which is 4.9 (clauses 122, Proposed Respor	e launch power edy D with a value e + 6 = 10.9 dB. 2, 151).	Comment Status D (max) in Table 181-5 is T equal to the Average laund This methodology is con esponse Status W	ch power, each	SE-FR4-500. ane (max) + 6 dB,	Johnson, Jol Comment Ty Difference for 800G SuggestedRe Replace	on be T e in launch p BASE-FR4-5 bemedy TBD with a v consistent with	Broadcom Comment Status D ower between any two lanes (00.	OMAouter) (max	TX spec x) in Table 181-5 is TBE

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 181 SC 181.6.1 Page 113 of 137 5/31/2024 10:47:13 AM

	SC 181.6.2	P 380	L18	# 163	C/ 181	SC 181.6.3	P 381	L 48	# 128
Yu, Rang-c	chen	InnoLight			Johnson, Jo	hn	Broadcom		
Comment T	Type TR	Comment Status D		RX specs	Comment T	vpe T	Comment Status D		power budg
loss' (3	8.5dB for FR4-50	_Pavg(min)' and 'Rx_Pavg(min)0)	ı)' should equal	to 'Channel insertion	lt's impli	ed by the diffe	es not explicitly say what the per rence between Allocation for p akes it hard for average reade	penalties (for ma	ax TDECQ) and
Suggested					SuggestedR	. ,			r ille perior budgeti
_	0 ()	e 181û6 should be -2.2dBm-3	.5dB=-5.7dBm		00		otnote (d), "This value include	s an allocation c	of 0.5 dB for MPI and
Proposed F	1	Response Status W			DGD pe	,		s an allocation o	
PROPC	OSED ACCEPT	IN PRINCIPLE.			Proposed R	esponse	Response Status W		
In Table	e 181-6, change	e the value for "Average receiv	e power, each l	ane (min)" to -5.7.			- IN PRINCIPLE. ted remedy with editorial licens	se.	
C/ 181	SC 181.6.2	P380	L 21	# 10	C/ 181	SC 181.6.3	P381	L 48	# 169
Johnson, J		Broadcom			Yu, Rang-ch	ien	InnoLight		
Comment T		Comment Status D		RX specs	Comment T		Comment Status D		power buda
	nce in receive po or 800GBASE-FF	ower between any two lanes (0 R4-500.	OMAouter) (max	() in Table 181-6 is	-		ify what's the compisiton of to	tal 3.9dB allocat	1
Suggested	Remedy				SuggestedR	emedy			
Replace	e TBD with a va	lue of 4.1 dB, consistent with	other FR4 PMD	s (Cl. 122, 151)			Allocations to penalties for 800		iding penalties due to
Proposed F	,	Response Status W			•		and MPI 0.5dB" to footnote d.		
PROPC	OSED ACCEPT	IN PRINCIPLE.			Proposed R	,	Response Status W		
	nent the suggest	ed remedy with editorial licens	se.				IN PRINCIPLE.		
Implem	SC 181.6.3	P381	se. L 36	# [161	Resolve	using the resp	ponse to comment #128		# 173
Implem	SC 181.6.3			# 161	Resolve	using the resp SC 181.7	P 383	L16	# 173
Implem 2/ 181 7u, Rang-c Comment T	SC 181.6.3 chen Type TR	P381 InnoLight Comment Status D	L 36	power budget	C/ 181 Yu, Rang-ch	using the resp SC 181.7	P 383 InnoLight	L 16	
Implem 7 181 7u, Rang-c 20mment 7 Power I	SC 181.6.3 Chen Type TR budget (for max	P381 InnoLight Comment Status D imum TDECQ)' for 800GBASE	L 36 E-FR4-500 in Ta	power budget able 181-7 could be	Resolve Cl 181 Yu, Rang-ch Comment Ty	SC 181.7	P383 P385 InnoLight Comment Status D		power budg
Implem 7 181 7 u, Rang-c 2000 2000 2000 2000 2000 2000 2000 20	SC 181.6.3 Chen Type TR budget (for max ct. It should be e	P381 InnoLight Comment Status D	L 36 E-FR4-500 in Ta	power budget able 181-7 could be	Resolve Cl 181 Yu, Rang-cł Comment Ty DGDma	SC 181.7	P 383 InnoLight		power budg
Implem 7 181 7u, Rang-c 7comment 7 Power I 1incorrec 7uggested	SC 181.6.3 Chen Type TR budget (for max ct. It should be e Remedy	P381 InnoLight Comment Status D imum TDECQ)' for 800GBASE equal to channel IL + allocation	L 36 E-FR4-500 in Ta n for penalties (f	<i>power budget</i> able 181-7 could be for maximum TDECQ).	C/ 181 Yu, Rang-ch Comment Ty DGDma 802.3df	using the resp SC 181.7 nen vpe T x (in Table 181 DR series.	P383 P385 InnoLight Comment Status D		power budg
Implem 2 181 2 u, Rang-c 2 comment 7 Power 1 incorrec 2 uggestedf Power 1	SC 181.6.3 Chen Type TR budget (for max ct. It should be e Remedy budget (for max	P381 InnoLight Comment Status D imum TDECQ)' for 800GBASE equal to channel IL + allocation imum TDECQ)' in Table 181-7	L 36 E-FR4-500 in Ta n for penalties (f	<i>power budget</i> able 181-7 could be for maximum TDECQ).	Cl 181 Yu, Rang-ch Comment Ty DGDma 802.3df SuggestedR	using the resp SC 181.7 nen vpe T x (in Table 181 DR series. emedy	P 383 P 383 InnoLight Comment Status D 1û8) probably used DGDmean		power budg
Implem Cl 181 Yu, Rang-c Comment 7 Power 1 Suggested Power 1 Proposed F	SC 181.6.3 Chen Type TR budget (for max ct. It should be e Remedy budget (for max Response	P381 InnoLight Comment Status D imum TDECQ)' for 800GBASE equal to channel IL + allocation imum TDECQ)' in Table 181-7 Response Status W	L 36 E-FR4-500 in Ta n for penalties (f	<i>power budget</i> able 181-7 could be for maximum TDECQ).	Resolve Cl 181 Yu, Rang-ch Comment Ty DGDma 802.3df SuggestedR Recomm	Using the resp SC 181.7 Then ype T x (in Table 181 DR series. emedy hend change to	P 383 P 383 InnoLight Comment Status D 1û8) probably used DGDmean		power budg
Implem 2/ 181 2/ u, Rang-c Comment 7 Power 1 Discorred Suggested Power 1 Proposed F	SC 181.6.3 Chen Type TR budget (for max ct. It should be e Remedy budget (for max	P381 InnoLight Comment Status D imum TDECQ)' for 800GBASE equal to channel IL + allocation imum TDECQ)' in Table 181-7 Response Status W	L 36 E-FR4-500 in Ta n for penalties (f	<i>power budget</i> able 181-7 could be for maximum TDECQ).	Resolve Cl 181 Yu, Rang-ct Comment Ty DGDma 802.3df SuggestedR Recomm Proposed R	using the resp SC 181.7 ten type T x (in Table 181 DR series. temedy tend change to tesponse	P 383 P 383 InnoLight Comment Status D 1û8) probably used DGDmean		power budg

C/ 181 SC 181.7

C/ 181	SC ·	181.7.1	P 383	L 26	# 336	C/ 181	SC
Ferretti, \	/ince		Corning			LeChemina	ant, G
Comment	t Type	TR	Comment Status D		optical channel specs	Comment	Туре
wave	lengths.	It is not s	fiber attenuation is only specif pecified for wavelengths betw VDM applications			The cu receive adjuste	erisde edtoe
Suggeste						way to should	
Remo	ove ITU-	T G.652.E	3 (dispersion unshifted) as a fi	ber option.		TDECO	
	, POSED	ACCEPT	Response Status W IN PRINCIPLE. onse to comment #335.			require the 802 was ac values	2.3 db Ided to are ao
C/ 181	SC ·	181.7.3	P 384	L 43	# 343	Alterna used to	
Lambert,	Angie		Corning			equal o	or high
Comment	t Type	т	Comment Status D		IEC revision	receive optimiz	
IEC 6	1753-02	1-2 has b	been superseded by IEC 6175	3-021-02.		Suggested	
Suggeste Chan		•	21-2" to "IEC 61753-021-02".			Add the values	are a
-	POSED	ACCEPT	Response Status W IN PRINCIPLE. onse to comment #339.			Alterna used to equal o receive	o dete or high
						Proposed I	•
						PROP Resolv	
						C/ 181	SC
						Johnson, J	lohn
						Comment	Туре
						The TE require	
						Suggested Replac	
						Proposed I PROP	•

C/ 181	SC 181.8.5	P386	L 41	# 18
LeCheminar	nt, Greg	Keysight Technol	ogies	
Comment Ty	/pe T	Comment Status D		TDECQ

method for optimizing the tap weighs of equalizer in the TDECQ reference described in clause 121.8.5. The equalizer tap coefficients are iteratively effectively minimize the TDECQ penalty. Although not explicitly stated, one this is that ANY combination of tap weights is valid and that ALL combinations ried to ensure the optimum tap weight combination is used when calculating s the equalizer length has been increased from 5 taps to 15 taps, the time verify all possible tap weights is likely problematic. This issue was managed in b project, where a 9 tap virtual equalizer is used for TDECQ. The following text to clause the definition of the TDECQ method: ôThe lowest measured TDECQ achieved with the equalizer optimization method described in 121.8.5. optimization methods such as minimum mean squared error (MMSE) may be ermine equalizer tap weights to reduce test time, and are expected to report ther values of TDECQ. These alternative methods should not be used for nsitivity and stressed receiver sensitivity calibrationö. Note that the MMSE n method is used in almost all TDECQ measurements performed today

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lowing text at line 53 (end of exceptions list): The lowest measured TDECQ achieved with the equalizer optimization method described in 121.8.5. optimization methods such as minimum mean squared error (MMSE) may be ermine equalizer tap weights to reduce test time, and are expected to report ther values of TDECQ. These alternative methods should not be used for nsitivity and stressed receiver sensitivity calibration

C/ 181	SC 181.8.5	P3	86 L	_ 41	# 2
	SED ACCEPT II using the respo	N PRINCIPLE. nse to comment #1	7		
Proposed Re	sponse	Response Status	W		

0,101 0	0 101.0.5	7 300	L 4 I	π Ζ
Johnson, John		Broadcom		
Comment Type	e T	Comment Status D		Reference (bucket)

Q methods reference channel requirements in 121.8.5.2 instead of the channel ts in local clause 181.8.5.1.

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e reference to 121.8.5.2 with reference to 181.8.5.1.

onse Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial license.

C/ 181	SC 181.8.5	P 387	L3	# 325
Welch, Bri	ian	Cisco		
Comment	Type TR	Comment Status D		TDECG
	nt baseline propo adopted.	sal is lacking tap weight restr	ictions, which w	ere indicated as TBD
Suggested	lRemedy			
Propos	se adopting the T	TDECQ tap weight restrictions	s as presented in	n welch_3dj_01_0524.
Proposed	Response	Response Status W		
-	OSED REJECT.	onse to comment #324.		
C/ 181	SC 181.8.5.1	P 387	L19	# 207
Parsons, E	Earl	CommScope		
Comment	Туре Т	Comment Status D		optical channel specs
	imes called "CM	es found in previous clauses	(i.e. Table 151-	2). This method is
301101	imes called Civi	1".		
Suggested		1".		
Suggested In the colum	dRemedy minimum columi n replace "1.66"	1 n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4.		
Suggested In the column Table	dRemedy minimum columi n replace "1.66"	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?)		
Suggested In the column Table Proposed PROP	IRemedy minimum columi n replace "1.66" 151-12 with the o Response POSED ACCEPT	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W		
Suggested In the column Table Proposed PROP	IRemedy minimum columi n replace "1.66" 151-12 with the o Response POSED ACCEPT	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE.		
Suggested In the column Table Proposed PROP Impler	IRemedy minimum column n replace "1.66" 151-12 with the of Response OSED ACCEPT ment suggested SC 181.8.11	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE. remedy with editorial license	^4]". These are	the same values as in
Suggested In the column Table Proposed PROP Impler	ARemedy minimum column n replace "1.66" 151-12 with the of Response POSED ACCEPT ment suggested of SC 181.8.11 pant, Greg	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE. remedy with editorial license <i>P</i> 388	^4]". These are	the same values as in
Suggested In the column Table Proposed PROP Impler C/ 181 LeChemin Comment The re techno require	dRemedy minimum column n replace "1.66" 151-12 with the of Response OSED ACCEPT ment suggested of SC 181.8.11 ant, Greg Type T equired -3dB BW blogy. (State of t e the bandwidth of	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE. remedy with editorial license <i>P</i> 388 Keysight Tecl	^4]". These are L 52 nnologies is not achievab aximum 120 GH staitially higher ti	the same values as in # <u>14</u> <i>RIN-OMA</i> le with existing lz bandwidth, would han 120 GHz to
Suggested In the column Table Proposed PROP Impler C/ 181 LeChemin Comment The re techno require	ARemedy minimum column n replace "1.66" 151-12 with the of Response POSED ACCEPT ment suggested of SC 181.8.11 ant, Greg Type T equired -3dB BW plogy. (State of t e the bandwidth of re the current systems	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE. remedy with editorial license P388 Keysight Tecl <i>Comment Status</i> D for the measurement system he art power meters with a m of the photodetetor to be subs	^4]". These are L 52 nnologies is not achievab aximum 120 GH staitially higher ti	the same values as in # <u>14</u> <i>RIN-OMA</i> le with existing lz bandwidth, would han 120 GHz to
Suggested In the column Table Proposed PROP Impler C/ 181 LeChemin Comment The re techno require achieve Suggested The ba the sys	ARemedy minimum column n replace "1.66" 151-12 with the of Response POSED ACCEPT ment suggested of SC 181.8.11 ant, Greg Type T equired -3dB BW blogy. (State of t e the bandwidth of the the current sys ARemedy andiwdth of the F stem receivers a	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE. remedy with editorial license P388 Keysight Tecl <i>Comment Status</i> D for the measurement system he art power meters with a m of the photodetetor to be subs	^4]". These are L 52 nologies is not achievab aximum 120 GH statially higher the test system, a be based on the se spectrum of the	# 14 <i>RIN-OMA</i> le with existing lz bandwidth, would han 120 GHz to as defined in clause 52) expected bandwidth of ransmitters. Spec
Suggested In the column Table Proposed I PROP Impler C/ 181 LeChemin Comment The re techno require achiev Suggested The ba the sys limits f	ARemedy minimum column n replace "1.66" 151-12 with the of Response POSED ACCEPT ment suggested of SC 181.8.11 ant, Greg Type T equired -3dB BW blogy. (State of t e the bandwidth of the the current sys ARemedy andiwdth of the F stem receivers a	n replace "-2.94" with "0.0115 with "0.0115 x ? x [1-(1300/?) coefficient divided by 4. <i>Response Status</i> W IN PRINCIPLE. remedy with editorial license <i>P</i> 388 Keysight Tech <i>Comment Status</i> D for the measurement system he art power meters with a m of the photodetetor to be subsistem bandiwdth required for the RIN-OMA test system should in nd consider the expected noise	^4]". These are L 52 nologies is not achievab aximum 120 GH statially higher the test system, a be based on the se spectrum of the	# 14 <i>RIN-OMA</i> le with existing lz bandwidth, would han 120 GHz to as defined in clause 52) expected bandwidth of ransmitters. Spec

	P 392	L 44	# 301
Maki, Jeffery	Juniper Net	works	
Comment Type TR	Comment Status D		IMDD acronym (bucke
appear in the actual C Clause 177 is used fo	scription is malformed. The a Clause 177 title. Why preclud or something other than IMDE used for coherent PMDs to s	le that at some fut D? Also, there is r	ture point in time that no use of "Coherent" to
SuggestedRemedy			
Delete the acronym I	MDD.		
Proposed Response	Response Status W		
PROPOSED ACCEP	•		
C/ 182 SC 182.1	P393	L 29	# 302
Maki, Jeffery	Juniper Net	works	
Comment Type TR	Comment Status D		IMDD acronym (bucke
SuggestedRemedy Delete the acronym II	MDD.		
Proposed Response PROPOSED ACCEP	Response Status W		
C/ 182 SC 182.1	P 394	L 23	# 303
Maki, Jeffery	Juniper Net	works	
Comment Type TR	Comment Status D		IMDD acronym (bucke
Associated clause de appear in the actual C Clause 177 is used fo	Comment Status D scription is malformed. The a clause 177 title. Why preclud or something other than IMDE used for coherent PMDs to s	le that at some fut D? Also, there is r	used, which does not ture point in time that to use of "Coherent" to
Associated clause de appear in the actual C Clause 177 is used fo describe Inner FECs	scription is malformed. The a Clause 177 title. Why preclud or something other than IMDE	le that at some fut D? Also, there is r	used, which does not ture point in time that to use of "Coherent" to
Associated clause de appear in the actual C Clause 177 is used fo describe Inner FECs terminology.	scription is malformed. The a Clause 177 title. Why preclud or something other than IMDE used for coherent PMDs to s	le that at some fut D? Also, there is r	used, which does not ture point in time that to use of "Coherent" to
Associated clause de appear in the actual C Clause 177 is used fo describe Inner FECs terminology. SuggestedRemedy	scription is malformed. The a Clause 177 title. Why preclud or something other than IMDE used for coherent PMDs to s MDD. <i>Response Status</i> W	le that at some fut D? Also, there is r	used, which does not ture point in time that to use of "Coherent" to

TYPE: TR/technical required ER/editorial required GR/gene	ral required T/technical E/editorial G/general	C/ 182	Page 116 of 137
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 182.1	5/31/2024 10:47:14 AM
SORT ORDER: Clause, Subclause, page, line			

C/ 182 SC	C 182.1	P 394	L 50	# 304	C/ 182	SC 1	82.6.1	P 401	L 21	# 328
Maki, Jeffery		Juniper Netwo	ks		Welch, Bria	n		Cisco		
Comment Type	TR	Comment Status D		IMDD acronym (bucket)	Comment T	ype	TR	Comment Status D		TX spec
appear in th Clause 177	ne actual Cla is used for s ner FECs use	ription is malformed. The acro use 177 title. Why preclude the comething other than IMDD? ed for coherent PMDs to setu	hat at some f Also, there is	uture point in time that no use of "Coherent" to	Pave(m	in) was rowed t (min).	3dB, to i to 2.5 dB	ie, 100GBASE-FR1) the diffe reflect the case of infinite ext as it was not updated to refle	nction ratio. Ir	n the adopted baselines
SuggestedRem	edy				00	,		rage launch power, each land	(min)" in Tab	182-7 from -2.1 dBm
Delete the a	acronym IME	DD.			to -2.6 d		Jing Ave	age launch power, cach land		
Proposed Resp	onse	Response Status W			Proposed R	espons	se	Response Status W		
PROPOSE	D ACCEPT.				PROPC	SED A	CCEPT I	N PRINCIPLE.		
Johnson, John Comment Type The PHY bi consistent v SuggestedRem	racket in Figu with previous <i>edy</i>	P 395 Broadcom Comment Status D ure 182-1 does not encompas PMDs. ket to include the PMD layer.	L 21	# 5 <i>Editorial (bucket)</i> ayer, which isn't	each la "Averag ratio of approxi	ne (min e launo approxi mately ent with)" with the ch power mately 10	otnote to the value "-2.1" on e following text: of –2.1 dBm corresponds to 0 dB or an OMA of –0.1 dBm license.	an OMA of –0	.8 dBm with an extinction
Proposed Resp		Response Status W			Yu, Rang-c	nen		InnoLight		
		N PRINCIPLE.			Comment T	vpe	т	Comment Status D		power budge
		ed remedy with editorial licens	e.		Althoug	h TDE	CQmax is	still TBD. However, the foot	note b should	also indicate the
		-		# [just leave dispersion section		
	C 182.4	P 397	L 20	# 147	SuggestedF	Remedy	/			
Ghiasi, Ali		Ghiasi Quantu	n/Marvell					ocations to penalties for DR>		uding penalties due to
Comment Type		Comment Status D		Precoding	•		,	and MPI 0.4dB" to footnote I).	
Prior to 182	.4 add section	on for PMA function to suppor	t precoder to	mitigate burst errors	Proposed R	'		Response Status W		
120.5.7.2, a	nitter need to and 173.5.7.2 ut OLT the op	supports 1/(1+D) mod 4 pred 2, 6 and 176.9.1.2, that may b trical transmitter should enab	e enabled o	disabled as needed with	Resolve not .5dE	e using 3.		N PRINCIPLE. onse to comment #128 with to license.	ne exception t	hat the value is .4dB and
Proposed Resp		Response Status W								
PROPOSE	D ACCEPT I	N PRINCIPLE. to comment #21.								

C/ 182 SC 182.6.3

C/ 182 SC 182.7.1	₽ 405 ∠31	# 337	C/ 182 SC 182.7	7.3.1.1 F	P 407 L11	# 587
Ferretti, Vince Co	orning		Ghiasi, Ali	Gh	iasi Quantum/Marvell	
Comment Type TR Comment State	us D	optical channel specs	Comment Type T	Comment State	us D	Connector labeling
ITU-T G.652.B cabled fiber attenuation is			To support breakou	ut, loopback, and OAN	/OLT connectro should b	be labled
wavelengths. It is not specified for wavele meant to be used in xWDM applications	engths between 1260 nm	and 1310 nm and not	SuggestedRemedy			
Suggested Remedy			DR2-2 connector s	hould be labled as Tx1	Tx2 Rx2Rx1	
Remove ITU-T G.652.B (dispersion unshi	ifted) as a fiber option.		Proposed Response	Response Statu	ıs W	
Proposed Response Response Statu	<i>,</i> .			EPT IN PRINCIPLE.		
PROPOSED ACCEPT IN PRINCIPLE.			Resolve using the	response to comment	#590.	
Resolve using the response to comment	#335.		C/ 182 SC 182.7	7.3.1.2 F	P407 L27	# 588
C/ 182 SC 182.7.3 F	P406 L45	# 345	Ghiasi, Ali	Gh	iasi Quantum/Marvell	
	prning		Comment Type T	Comment State	us D	Connector labeling
Comment Type T Comment Statu	0	IEC revision	To support breakou	ut, loopback, and OAN	/OLT connectro should b	be labled
IEC 61753-021-2 has been superseded b	by IEC 61753-021-02.		SuggestedRemedy			
SuggestedRemedy			DR2-4 connector s	hould be labled as Tx1	Tx2Tx3Tx4 Rx4Rx3	3Rx2Rx1
Change "IEC 61753-021-2" to "IEC 61753	3-021-02".		Proposed Response	Response Statu	ıs W	
Proposed Response Response Statu	is W			EPT IN PRINCIPLE.		
PROPOSED ACCEPT IN PRINCIPLE.			Resolve using the	response to comment	#590.	
Resolve using the response to comment	#339.		C/ 182 SC 182.7	7.3.1.3 F	P 408 L15	# 589
C/ 182 SC 182.7.3 F	P406 L45	# 344	Ghiasi, Ali	Gh	iasi Quantum/Marvell	
Lambert, Angie Co	prning		Comment Type T	Comment State	_	Connector labeling
Comment Type T Comment State	us D	IEC revision	To support breakou	ut, loopback, and OAN	/OLT connectro should b	be labled
IEC 61753-1-1 has been superseded by I	IEC 61753-1.		SuggestedRemedy			
SuggestedRemedy			DR2-8 connector s Rx8Rx7Rx6Rx5Rx4		Tx2Tx3Tx4Tx5Tx6Tx7T	x8
Change "IEC 61753-1-1" to "IEC 61753-1	u .		Proposed Response	Response Statu	ıs W	
Proposed Response Response Statu	is W		PROPOSED ACCE	EPT IN PRINCIPLE.		
PROPOSED ACCEPT IN PRINCIPLE.	#220		Resolve using the	response to comment	#590.	
Resolve using the response to comment	#330.					

C/ 182 SC 182.7.3.1.3 Page 118 of 137 5/31/2024 10:47:14 AM

C/ 182	SC 182.7.3.2	P 408	L 22	# 347	C/ 182 SC	C 182.7.3.4	P 409	L 8	# 349
Lambert, A	ngie	Corning			Lambert, Angie		Corning		
Comment 7 IEC 61	51	Comment Status D een superseded by IEC 617	53-021-02.	IEC revision	Comment Type IEC 61753-		Comment Status D n superseded by IEC 617	53-021-02.	IEC revision
S <i>uggestedl</i> Change		-2" to "IEC 61753-021-02".			SuggestedRem Change "IE		2" to "IEC 61753-021-02".		
	, OSED ACCEPT I	Response Status W N PRINCIPLE. nse to comment #339.				D ACCEPT IN	Response Status W PRINCIPLE. se to comment #339.		
C/ 182	SC 182.7.3.2	P 408	L 22	# 346	C/ 182 SC	C 182.8.5	P 411	L 30	# 19
Lambert, A	ngie	Corning			LeCheminant, (Greg	Keysight Tec	hnologies	
Comment 1	Туре Т	Comment Status D		IEC revision	Comment Type	т	Comment Status D		TDECG
	OSED ACCEPT I	N PRINCIPLE. Inse to comment #338.			required to the 802.3 d	verify all possit b project, wher	length has been increase ble tap weights is likely pro- e a 9 tap virtual equalizer lefinition of the TDECQ m	blematic. This is used for TDE	issue was managed in CQ. The following text
C/ 182	SC 182.7.3.3	P 409	L 1	# 348			lefinition of the TDECQ m he equalizer optimization		
Lambert, A	ngie	Corning					ethods such as minimum		
Comment 7 IEC 61	51	Comment Status D een superseded by IEC 617	53-021-02.	IEC revision	equal or hig receiver se	her values of T nsitivity and str	er tap weights to reduce to TDECQ. These alternative essed receiver sensitivity	methods should calibrationö. No	d not be used for ote that the MMSE
Suggestedl	Remedy				•		ed in almost all TDECQ m	easurements pe	erformed today
Change	e "IEC 61753-021	-2" to "IEC 61753-021-02".			SuggestedRem	-		· • • • • •	170500
	OSED ACCEPT I	Response Status W N PRINCIPLE. Inse to comment #339.			values are a Alternative used to det equal or hig	achieved with the optimization mean optimization mean optimization mean optimization mean optimization of the optimization optimizes of the optimized optize	he 44 (end of exceptions I he equalizer optimization ethods such as minimum er tap weights to reduce to FDECQ. These alternative essed receiver sensitivity	method describe mean squared e est time, and are methods should	ed in 121.8.5. error (MMSE) may be e expected to report
					Proposed Resp	-	Response Status W		
					PROPOSE	D ACCEPT IN	PRINCIPLE.		

C/ 182 SC 182.8.5

C/ 182	SC 182.8.5	P 411	L 30	# 3	C/ 182	SC 182.9.1	P 413	L 43	# 350
Johnson, J	John	Broadcom			Lambert, Ar	igie	Corning		
Comment	Туре Т	Comment Status D		TDECQ	Comment T	/ре Т	Comment Status D		IEC revision
		specifies ORL of 21.4dB be	applied for TX t	esting. For	IEC 609	50-1 has bee	n superseded by IEC 62368-1.		
	BASE-FR1, this ne	eds to be 17.1dB.			SuggestedF	emedy			
Suggested	•				Change	"IEC 60950-7	1" to "IEC 63268-1".		
	new exception to t optical return loss	he list in 182.8.5: is as given in Table 182-7."			Proposed R	•	Response Status W		
Proposed I	Response	Response Status W					T IN PRINCIPLE.		
	OSED ACCEPT IN					0			
Implen	nent the suggeste	d remedy with editorial licen	se.		C/ 183	SC 183.1	P 418	L 39	# 305
C/ 182	SC 182.8.5	P 411	L 30	# 113	Maki, Jeffer	y	Juniper Netwo	orks	
Stassar, P	eter	Huawei Techr	nologies		Comment T	/pe TR	Comment Status D		IMDD acronym (bucket)
Comment	Туре Т	Comment Status D	0	TDECQ			scription is malformed. The acr		
	ntly reference is ma	ade to compliance channel i	n 121.8.5.2, wh	ich is for 500m instead	Clause	177 is used fo	Clause 177 title. Why preclude to pr something other than IMDD? used for coherent PMDs to setu	Also, there is	no use of "Coherent" to
Suggested	IRemedv				terminol			ap allo approp	
conten	ts along the lines	32.8.5.1 and refer to it instead of 124.8.5.1 from 802.3df w			SuggestedR Delete t	<i>emedy</i> he acronym II	MDD.		
	p with editorial lice				Proposed R	esponse	Response Status W		
Proposed I	,	Response Status W			PROPO	SED ACCEP	Т.		
Implen		d remedy with editorial licen	se.		C/ 183	SC 183.4	P 420	L 37	# 148
FOLCE	RG discussion				Ghiasi, Ali		Ghiasi Quantu	um/Marvell	
C/ 182	SC 182.8.11	P 413	L10	# 15	Comment T	/pe T	Comment Status D		Precoding
LeChemina	ant, Greg	Keysight Tech	nologies		-	,	ction for PMA function to suppo	ort precoder to	mitigate burst errors
Comment	Туре Т	Comment Status D		RIN-OMA	SuggestedF	emedy			C C
techno require	blogy. (State of the the bandwidth of	or the measurement system a art power meters with a main the photodetetor to be subs am bandiwdth required for th	aximum 120 GH taitially higher th	lz bandwidth, would nan 120 GHz to	The tra 120.5.7. OLT, wi	nsmitter need 2, and 173.5.	to supports 1/(1+D) mod 4 pre 7.2, 6 and 176.9.1.2, that may optical transmitter should enab	be enabled or	disabled as needed with
Suggested	lRemedy				Proposed R		Response Status W		
the sys	stem receivers and	N-OMA test system should I d consider the expected nois need adjustment to adapt to	se spectrum of t	ransmitters. Spec	PROPO	SED ACCEP	T IN PRINCIPLE. ase to comment #21.		
Proposed I	Response	Response Status W							
PROP	, OSED ACCEPT II	,							
_									

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

Resolve using the response to comment #518

C/ 183

SC 183.4

C/ 183 SC 183.6	6.1 P425	L16	# 7	C/ 183	SC 183.6.1	P 425	L19	# 164
Johnson, John	Broadco	m		Yu, Rang-c	nen	InnoLight		
Comment Type T	Comment Status D		TX specs	Comment T	ype TR	Comment Status D		TX specs
Total average laun	ch power (max) in Table 183	3-6 is TBD for 800GE	BASE-FR4.			nip between 'Tx_OMAout (n		(min)' (in Table 183û6)
SuggestedRemedy				follow 4	00G FR4, with	delta=3dB, assuming max	. OER infinite.	
Replace TBD with	a value equal to the Average	e launch power, each	n lane (max) + 6 dB,	SuggestedF	,			
	10.9 dB. This methodology and 800GBASE-LR4 in this		evious FR4 PMDs		()	0.8dBm, then 'Average laur iged to -2.2dBm.	nch power, each la	ane (min) ' in Table
Proposed Response	Response Status W	1		Proposed R	esponse	Response Status W		
	EPT IN PRINCIPLE. gested remedy with editorial	license.				T IN PRINCIPLE. sted remedy with editorial li	cense.	
C/ 183 SC 183.6	6.1 P425	L19	# 166	C/ 183	SC 183.6.1	P 425	L 24	# 12
′u, Rang-chen	InnoLigh	ıt		Johnson, Jo	ohn	Broadcom		
comment Type TR	Comment Status D		TX specs	Comment T	ype T	Comment Status D		TX specs
infinite.				each lai (min) in				
	n)'=1.9dBm, then 'Average la	aunch power, each la	ane' for 800G I R4 in	SuggestedF		or 800GBASE-FR4/LR4.		
With 'OMAout (mi	n)'=1.9dBm, then 'Average la d be changed to -1.1dBm.	aunch power, each la	ane' for 800G LR4 in	SuggestedF Replace	Remedy TDECQ with	max(TECQ, TDECQ) for b		
With 'OMAout (min Table 183û6 shoul			ane' for 800G LR4 in	SuggestedF Replace PMDs in	Remedy TDECQ with Clauses 180	max(TECQ, TDECQ) for b -182. Note that max(TECC	, TDECQ) is alrea	ady in Equation 183-1.
With 'OMAout (min Table 183û6 shoul Proposed Response PROPOSED ACCI	d be changed to -1.1dBm.		ane' for 800G LR4 in	SuggestedF Replace PMDs in For con 6, and c	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior	max(TECQ, TDECQ) for b	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183-
With 'OMAout (min Table 183û6 shoul Proposed Response PROPOSED ACCI Implement the sug	d be changed to -1.1dBm. <i>Response Status</i> W EPT IN PRINCIPLE. gested remedy with editorial			SuggestedF Replace PMDs in For con 6, and c	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex	max(TECQ, TDECQ) for b -182. Note that max(TECC ice "Equation 183-1" with "- n 183-1 on page 435, line 2	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183-
With 'OMAout (min Table 183û6 shoul roposed Response PROPOSED ACCI Implement the sug	d be changed to -1.1dBm. <i>Response Status</i> W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425	license.	ane' for 800G LR4 in # <u>329</u>	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex esponse SED ACCEP1	max(TECQ, TDECQ) for b -182. Note that max(TECC ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W F IN PRINCIPLE.	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183-
With 'OMAout (min Table 183û6 shoul roposed Response PROPOSED ACCI Implement the sug / 183 SC 183.6 /elch, Brian	d be changed to -1.1dBm. <i>Response Status</i> W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco	license.	# 329	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex esponse SED ACCEP1	max(TECQ, TDECQ) for b -182. Note that max(TECC ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) Response Status W	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183-
With 'OMAout (min Table 183û6 shoul roposed Response PROPOSED ACCI Implement the sug / 183 SC 183.6 /elch, Brian omment Type TR	d be changed to -1.1dBm. <i>Response Status</i> W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco	l license. L 19	# <u>329</u> TX specs	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex esponse SED ACCEP1	max(TECQ, TDECQ) for b -182. Note that max(TECC ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W F IN PRINCIPLE.	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183-
With 'OMAout (min Table 183û6 shoul troposed Response PROPOSED ACCI Implement the sug 1 183 SC 183.6 Velch, Brian comment Type TR In later 100GPL sp Pave(min) was 3dB	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D Decs (ie, 400GBASE-FR4) th 3, to reflect the case of infini	l license. L 19 e difference betweer te extinction ratio. In	# <u>329</u> <i>TX specs</i> n OMA(min) and the adopted baselines	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC Implem	Remedy TDECQ with n Clauses 1800 sistency, repla lelete Equatior urrounding tex esponse SED ACCEPT ent suggest re SC 183.6.1	max(TECQ, TDECQ) for b -182. Note that max(TECC ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W I IN PRINCIPLE. medy with editorial license.	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183-
With 'OMAout (min Table 183û6 shoul roposed Response PROPOSED ACCI Implement the sug / 183 SC 183.6 Velch, Brian comment Type TR In later 100GPL sp Pave(min) was 3dE this narrowed to 2.	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D pecs (ie, 400GBASE-FR4) th	l license. L 19 e difference betweer te extinction ratio. In	# <u>329</u> <i>TX specs</i> n OMA(min) and the adopted baselines	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPO Implem	Remedy TDECQ with n Clauses 1800 sistency, repla lelete Equatior urrounding tex esponse OSED ACCEPT ent suggest re SC 183.6.1 erto	max(TECQ, TDECQ) for b -182. Note that max(TECC) ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W F IN PRINCIPLE. medy with editorial license.	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183- gures 183-3, 183-5, 183-
With 'OMAout (min Table 183û6 shoul troposed Response PROPOSED ACCI Implement the sug 1 183 SC 183.6 Velch, Brian tomment Type TR In later 100GPL sp Pave(min) was 3dB this narrowed to 2. TDECQ(min).	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D Decs (ie, 400GBASE-FR4) th 3, to reflect the case of infini	l license. L 19 e difference betweer te extinction ratio. In	# <u>329</u> <i>TX specs</i> n OMA(min) and the adopted baselines	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC Implem C/ 183 Rodes, Rot Comment T	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex esponse SED ACCEPT ent suggest re SC 183.6.1 erto ype T	max(TECQ, TDECQ) for b -182. Note that max(TECC) ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W F IN PRINCIPLE. medy with editorial license. <i>P</i> 425 Coherent	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183- gures 183-3, 183-5, 183-
With 'OMAout (min Table 183û6 shoul roposed Response PROPOSED ACCI Implement the sug / 183 SC 183.6 Velch, Brian omment Type TR In later 100GPL sp Pave(min) was 3dE this narrowed to 2. TDECQ(min). uggestedRemedy	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D Decs (ie, 400GBASE-FR4) th 3, to reflect the case of infini 6 dB as it was not updated t	l license. L 19 e difference betweer te extinction ratio. In o reflect the changes	# 329 <i>TX specs</i> n OMA(min) and the adopted baselines is to effective	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC Implem C/ 183 Rodes, Rot Comment T	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex esponse SED ACCEPT ent suggest re SC 183.6.1 erto ype T spec format c	max(TECQ, TDECQ) for b -182. Note that max(TECQ ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W T IN PRINCIPLE. medy with editorial license. <i>P</i> 425 Coherent <i>Comment Status</i> D	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183- # <u>503</u>
With 'OMAout (min Table 183û6 shoul roposed Response PROPOSED ACCI Implement the sug / 183 SC 183.6 /elch, Brian omment Type TR In later 100GPL sp Pave(min) was 3dE this narrowed to 2. TDECQ(min). uggestedRemedy	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D Decs (ie, 400GBASE-FR4) th 3, to reflect the case of infini	l license. L 19 e difference betweer te extinction ratio. In o reflect the changes	# 329 <i>TX specs</i> n OMA(min) and the adopted baselines is to effective	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC Implem Cl 183 Rodes, Rot Comment T Change SuggestedF	Remedy TDECQ with n Clauses 1800 sistency, repla lelete Equatior urrounding tex esponse SED ACCEPT ent suggest re SC 183.6.1 erto ype T spec format c Remedy	max(TECQ, TDECQ) for b -182. Note that max(TECQ ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W T IN PRINCIPLE. medy with editorial license. <i>P</i> 425 Coherent <i>Comment Status</i> D	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig <i>L2</i> 7	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183- gures 183-3, 183-5, 183-
With 'OMAout (min Table 183û6 shoul Proposed Response PROPOSED ACCI Implement the sug of 183 SC 183.6 Velch, Brian Comment Type TR In later 100GPL sp Pave(min) was 3dE this narrowed to 2. TDECQ(min). SuggestedRemedy Propose changing to -2.2 dBm.	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D Decs (ie, 400GBASE-FR4) th 3, to reflect the case of infini 6 dB as it was not updated t	l license. L 19 e difference betweer te extinction ratio. In o reflect the changes	# 329 <i>TX specs</i> n OMA(min) and the adopted baselines is to effective	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC Implem Cl 183 Rodes, Rot Comment T Change SuggestedF	Remedy TDECQ with n Clauses 1800 sistency, repla lelete Equatior urrounding tex esponse SED ACCEPT ent suggest re SC 183.6.1 erto ype T spec format c Remedy e 0.5+TDECQ	max(TECQ, TDECQ) for b -182. Note that max(TECC) ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W F IN PRINCIPLE. medy with editorial license. <i>P</i> 425 Coherent <i>Comment Status</i> D consistent with FR4	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig <i>L2</i> 7	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183- # <u>503</u>
Table 183û6 shoul Proposed Response PROPOSED ACCI Implement the sug C/ 183 SC 183.6 Welch, Brian Comment Type TR In later 100GPL sp Pave(min) was 3dE this narrowed to 2. TDECQ(min). SuggestedRemedy Propose changing to -2.2 dBm. Proposed Response PROPOSED ACCI	d be changed to -1.1dBm. Response Status W EPT IN PRINCIPLE. gested remedy with editorial 5.1 P425 Cisco Comment Status D becs (ie, 400GBASE-FR4) th 3, to reflect the case of infini 6 dB as it was not updated t "Average launch power, eac	l license. L 19 e difference betweer te extinction ratio. In o reflect the changes	# 329 <i>TX specs</i> n OMA(min) and the adopted baselines is to effective	SuggestedF Replace PMDs in For con 6, and c 6 and s Proposed R PROPC Implem Cl 183 Rodes, Rob Comment T Change SuggestedF Replace Proposed R PROPC	Remedy TDECQ with Clauses 180 sistency, repla lelete Equatior urrounding tex esponse SED ACCEPT ent suggest re SC 183.6.1 erto ype T spec format of Remedy 0.5+TDECQ esponse SED ACCEPT	max(TECQ, TDECQ) for b -182. Note that max(TECG ice "Equation 183-1" with "- n 183-1 on page 435, line 2 t with max(TECQ, TDECQ) <i>Response Status</i> W T IN PRINCIPLE. medy with editorial license. P425 Coherent <i>Comment Status</i> D consistent with FR4	0, TDECQ) is alrea 0.1 + max(TECQ, 0. Also update Fig <i>L2</i> 7	ady in Equation 183-1. TDECQ)" in Table 183- gures 183-3, 183-5, 183-

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/generalC/183Page 121 of 137COMMENT STATUS: D/dispatched A/accepted R/rejectedRESPONSE STATUS: O/open W/written C/closed Z/withdrawnSC183.6.15/31/2024 10:47:14 AMSORT ORDER: Clause, Subclause, page, line

C/ 183 SC 183.6.1	P 425	L 28	# 9	C/ 183	SC	183.6.2	P 427	L 21	# 11
Johnson, John	Broadcom			Johnson,	John		Broadcom		_
Comment Type T	Comment Status D		TX specs	Comment	Туре	т	Comment Status D		RX spec
Difference in launch p for 800GBASE-FR4.	ower between any two lanes (0	DMAouter) (ma:	k) in Table 183-6 is TBD			receive po GBASE-FR	wer between any two lanes (4.	OMAouter) (ma	ix) in Table 183-7 is
SuggestedRemedy				Suggestee	dRemed	dy			
	alue of OMAouter(max) minus		or 4 dB, whicher is	Repla	ce TBD) with a val	ue of 4.1 dB, consistent with	other FR4 PMD	Ds (Cl. 122, 151)
,	h other FRn/LRn clauses (122	, 151).		Proposed	Respor	nse	Response Status W		
Proposed Response PROPOSED ACCEPT	Response Status W I IN PRINCIPLE. sted remedy with editorial license	50		-			IN PRINCIPLE. ed remedy with editorial licen	se.	
			"	C/ 183	SC	183.6.3	P 428	L 51	# 502
C/ 183 SC 183.6.2	P 427	L18	# 165	Rodes, Ro	oberto		Coherent		
/u, Rang-chen	InnoLight			Comment	Туре	т	Comment Status D		power budge
comment Type TR	Comment Status D		RX specs	Addin	g expla	nation on a	allocation for penalties calculation	ation.	
The delta between 'Tx loss' (4.0dB for FR4)	_Pavg(min)' and 'Rx_Pavg(mir	n)' should equal	to 'Channel insertion	Suggestee	dRemed	dy			
SuggestedRemedy Rx_Pavg (min)' in Tab	le 183û7 should be -2.2dBm-4	.0dB=-6.2dBm		text:"A	Allocatic		an for the inserion loss adding Ities is calculated using an a		
Proposed Response PROPOSED ACCEPT	Response Status W			Proposed PROF	•	nse ACCEPT.	Response Status W		
For Table 183-7, in the power, each lane (min	e 800GBASE-FR4 column, cha))" to -6.2.	ange the value f	or "Average receive	C/ 183		183.6.3	P 429	L 6	# 168
	,	1.10	# • • • •	Yu, Rang-			InnoLight		
2/ 183 SC 183.6.2	P 427	L18	# 167	Comment		т	Comment Status D		power budge
u, Rang-chen	InnoLight			Footn	ote e di	id not clarif	y what's the compisiton of to	tal 5dB allocatio	on for penalties.
Comment Type TR	Comment Status D		RX specs	Suggestee					
The delta between 'Tx 'Channel insertion loss	:_Pavg(min)' and 'Rx_Pavg(mir s' (6.3dB for LR4)	n)' for 800G LR4	4 should equal to				locations to penalties for 800 0.7dB and MPI 0.4dB" to foot		g penalties due to
SuggestedRemedy				Proposed	Respor	nse	Response Status W		
Rx_Pavg (min)' for 80	0G LR4 in Table 183û7 should	be -1.1dBm-6.	3dB=-7.4dBm	PROF	POSED	ACCEPT	IN PRINCIPLE.		
Proposed Response	Response Status W			Resol	ve using	g the resp	onse to comment #502.		
PROPOSED ACCEPT	IN PRINCIPLE.								
For Table 183-7, in the power, each lane (min	e 800GBASE-LR4 column, cha)" to -7.4.	inge the value f	or "Average receive						

C/ 183 SC 183.6.3

W 183 SC 183.6.3 P429	L 6	# 172	C/ 183	SC 183.7.2	P 431	L 41	# 126
/u, Rang-chen InnoLight			Johnson, Jo	hn	Broadcom		
Comment Type T Comment Status D		power budget	Comment Ty	/pe T	Comment Status D		optical channel specs
Although TDECQmax is still TBD. However, the footn			Clause 1	183.7.2 is TBD.			
allocation for penalties, just leave dispersion section a		ne updale.	SuggestedR	emedy			
SuggestedRemedy Recommend to add "Allocations to penalties for 800G dipersion TBDdB, DGD and MPI 0.5dB" to footnote e		g penalties due to	183û7, c		ven in 182.7.2: "An optical f ted pair of optical connector controversial.		
Proposed Response Response Status W			Proposed Re	esponse	Response Status W		
PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #171.				SED ACCEPT I ent the suggeste	N PRINCIPLE.	se.	
C/ 183 SC 183.7 P431	L 12	# 208	C/ 183	SC 183.7.3	P 432	L 40	# 351
Parsons, Earl CommScope			Lambert, An	gie	Corning		
Comment Type T Comment Status D		optical channel specs	Comment Ty	/pe T	Comment Status D		IEC revision
The positive and negative dispersion values in this tal model that uses a statistical approach. A contribution			IEC 617	53-021-2 has be	een superseded by IEC 6175	3-021-02.	
submitted.	on liber dispe		SuggestedR	emedy			
SuggestedRemedy			Change	"IEC 61753-027	1-2" to "IEC 61753-021-02".		
Replace TBDs with values agreed upon by the Task I	Force.		Proposed Re	•	Response Status W		
Proposed Response Response Status W				SED ACCEPT I			
PROPOSED REJECT. The following presentation was reviewed by the 802.3 meeting: https://www.ieee802.org/3/dj/public/24_05/parsons_3 The presentation provided an overview of the latest fil determine dispersion parameters but no specific value to modify the draft.	dj_01a_2405.p ber data set th	df at could be used to	Resolve		onse to comment #339.		
7 183 SC 183.7.1 P431	L 31	# 125					
ohnson, John Broadcom							
Comment Type T Comment Status D Clause 183.7.1 is TBD.		optical channel specs					
SuggestedRemedy							
Use the same text and table as given in 182.7.1. Sin- cable specs from external standards, not 802.3 speci controversial.		2					
Proposed Response Response Status W							
PROPOSED ACCEPT IN PRINCIPLE. Implement the suggested remedy with editorial licens	e.						

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 183 SC 183.7.3 Page 123 of 137 5/31/2024 10:47:14 AM

C/ 183	SC 183.8.5	P 435	L 25	# 20
LeChemina	ant, Greg	Keysight Tech	nologies	
Comment 7	Туре Т	Comment Status D		TDECQ

The current method for optimizing the tap weighs of equalizer in the TDECQ reference receiver is described in clause 121.8.5. The equalizer tap coefficients are iteratively adjusted to effectively minimize the TDECQ penalty. Although not explicitly stated, one way to view this is that ANY combination of tap weights is valid and that ALL combinations should be tried to ensure the optimum tap weight combination is used when calculating TDECQ. As the equalizer length has been increased from 5 taps to 15 taps, the time required to verify all possible tap weights is likely problematic. This issue was managed in the 802.3 db project, where a 9 tap virtual equalizer is used for TDECQ. The following text was added to clause the definition of the TDECQ method: ôThe lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibrationö. Note that the MMSE optimization method is used in almost all TDECQ measurements performed today

SuggestedRemedy

Add the following text at line 40 (end of exceptions list): The lowest measured TDECQ values are achieved with the equalizer optimization method described in 121.8.5. Alternative optimization methods such as minimum mean squared error (MMSE) may be used to determine equalizer tap weights to reduce test time, and are expected to report equal or higher values of TDECQ. These alternative methods should not be used for receiver sensitivity and stressed receiver sensitivity calibration

Proposed Response	Response Status	W					
PROPOSED ACCEPT IN PRINCIPLE.							
Resolve using the response to comment #17							

C/ 183	SC 183.8.11	P 437	L 41	# 16
LeChemin	ant, Greg	Keysight Techr	nologies	
Comment	Type T	Comment Status D		RIN-OMA

The required -3dB BW for the measurement system is not achievable with existing technology. (State of the art power meters with a maximum 120 GHz bandwidth, would require the bandwidth of the photodetetor to be substaitially higher than 120 GHz to achieve the current system bandwidth required for the test system, as defined in clause 52)

SuggestedRemedy

The bandiwdth of the RIN-OMA test system should be based on the expected bandwidth of the system receivers and consider the expected noise spectrum of transmitters. Spec limits for RIN OMA may need adjustment to adapt to any changes in the test method

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #518

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

C/ 184	SC 184.1.1	P 441	L 8	# 308
Bruckmar	n, Leon	Huawei		
Comment	Type TR	Comment Status D		General (Bucket)
The Ir	nner FEC as defir	ned, includes the PMA. Shall	make this clear	to the reader
Suggestee	dRemedy			
		This Inner FEC subllayer incle split the PMA function	udes functionali	ty often associated with
Proposed	Response	Response Status W		
Implei Add s PMA s Add s	entence: "This In sublayer at the Pl	g with editorial license. ner FEC sublayer includes fu MD service interface". appropiate sub clause in clau		associated with the
C/ 184	SC 184.2	P 443	L 7	# 87
Huber, Th	iomas	Nokia		
Comment	Туре Т	Comment Status D		General (Bucket)

Other diagrams of this type do not have dashed boxes areound the transmit and received processes.

SuggestedRemedy

For consistency with the rest of the document, remove the dashed boxes

Proposed Response Response Status W PROPOSED REJECT

PROPOSED REJECT.

The dashed boxes clearly denote the transmit and receive functions. Removing the dashed boxes does not improve clarity of the draft.

Cl	184	
SC	184.2	

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C/ 184

SC 184.4.1

C/ 184	SC 184.2	P 444	L 5	# 88
Huber, Thor	nas	Nokia		
Comment Ty	/pe т	Comment Status D		Functional (Bucket)

The second sentence of the paragraph (dsicussing the distribution to 32 lanes by the permutation function) sems to imply that the 32 lanes were interleaved into a serial stream after they were reordered and deskewed, but the text doesn't actually say that is done.

SuggestedRemedy

If the intent is that the 32 lanes are re-interleaved, and then the permutation function distributes the symbols back to 32 lanes (in something other than a round-robin manner), change the end of the first sentence to say "àreordered, deskewed, and serialized". If the intent is that the permutation process just moves symbols around among the 32 lanes, change the second sentence to say "The RS-FEC symbols are then rearranged across the 32 lanes by a permutation function."

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license.

Change "The RS-FEC symbols are then distributed over the 32 lanes by a permutation function. " to "The RS-FEC symbols are then rearranged across the 32 lanes by a permutation function."

C/ 184	SC 184.4	P 445	L 22	# 184
Brown, Ma	tt	Alphawave Sen	ni	

Comment Type T

```
Comment Status D
```

Reorder (Bucket)

The Inner FEC transmit (184.4) and receive (184.5) functions provide a BCH

encoder/decoder and other functions to be performed on each PCS lane. Although there is one per PCS lane, these should be called "flows" rather than "lanes" to be consistent with other FEC clauses and to differentiate between "lanes" that go between sublayers.

SuggestedRemedy

When describing the process applied to each PCS lane in each direction, use the word "flow" rather than "lane".

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.

Need to further define the deskew requirement. For now it is defined as optional. In practice full deskew is optional, but doing 10b alignment of RS symbols is mandatory. SuggestedRemedy Replace lines 8-18 with the requirement of partial deskew, which means 10b RS symbols resolution deskew. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph C/ 184 SC 184.4.1 Pubber, Thomas Nokia Comment Type T Comment Type T Comment We just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #229 response inplements suggested remedy. Resolve using the response to comment #229 C/ 184 SC 184.4.1 P445 L12 # 178 Brown, Matt Alphawave Semi	C/ 184	SC 1	84.4.1	P 445		L3	# 299
Need to further define the deskew requirement. For now it is defined as optional. In practic full deskew is optional, but doing 10b alignment of RS symbols is mandatory. SuggestedRemedy Replace lines 8-18 with the requirement of partial deskew, which means 10b RS symbols resolution deskew. Proposed Response Response Status PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph Cl 184 SC 184.4.1 PADPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph Cl 184 SC 184.4.1 PADPOSED ACCEPT IN PRINCIPLE. Functional (buck Comment Type T Comment Status V PROPOSED ACCEPT IN PRINCIPLE. Comment #299 Cl 184 SC 184.4.1 P445 L12 # Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 Cl 184 SC 184.4.1 P445 L12 # 178 Brown, Matt Alphawave Semi Commen	Loewentha	l, Arnor	า	alphawa	ve semi		
full deskew is optional, but doing 10b alignment of RS symbols is mandatory. SuggestedRemedy Replace lines 8-18 with the requirement of partial deskew, which means 10b RS symbols resolution deskew. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph Cl 184 SC 184.4.1 PA45 L5 Huber, Thomas Nokia Comment Type T Comment Status D Functional (buck There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response implements suggested remedy. Resolve using the response to comment #299 Cl 184 SC 184.4.1 P445 L12 178 Brown, Matt Alphawave Semi Comment Gumment Type T Comment Status D Comment Type T Comment Status D	Comment	Гуре	т	Comment Status D			Functional (bucke
Replace lines 8-18 with the requirement of partial deskew, which means 10b RS symbols resolution deskew. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph Cl 184 SC 184.4.1 P445 L5 # [99] Huber, Thomas Nokia Comment Type T Comment Status D Functional (buck) There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 Comment #299 Etal 178 Rown, Matt Alphawave Semi Comment Type T Comment #299 Cl 184 SC 184.4.1 P445 L12 # [178] Brown, Matt Alphawave Semi Comment Type T Comment Status D Functional (Buck) The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface t							
resolution deskew.	Suggested	Remedy	/				
PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph Cl 184 SC 184.4.1 P445 L5 # Huber, Thomas Nokia Comment Type T Comment Status D Functional (buck There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response implements suggested remedy. Resolve using the response to comment #299 Cl 184 SC 184.4.1 P445 L12 # 178 Brown, Matt Alphawave Semi Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1 PROPOSED ACCEPT IN PRINCIPLE.				he requirement of part	ial deskew	r, which me	eans 10b RS symbols
Implement the following with editorial license. In the first paragraph of clause 184.4.1 delete ", when implemented," and delete the second paragraph <i>CI</i> 184 SC 184.4.1 P445 L5 # 89 Huber, Thomas Nokia <i>Comment Type</i> T Comment Status D Functional (buck There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. <i>Proposed Response Response Status</i> W PROPOSED ACCEPT IN PRINCIPLE. Comment Type T Comment Status D Functional (buck The process provided in 184.4.1 P445 L12 # 178 Brown, Matt Alphawave Semi <i>Comment Type</i> T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. <i>Proposed Response Response Status</i> W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. W	Proposed I	Respons	se	Response Status W			
Huber, Thomas Nokia Comment Type T Comment Status D Functional (buck There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response implements suggested remedy. Resolve using the response to comment #299 C/ 184 SC 184.4.1 P445 L 12 # 178 Brown, Matt Alphawave Semi Comment Type T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. W	Implen In the f	nent the irst para	following agraph of c	with editorial license. clause 184.4.1 delete	, when im	olemented	n ,
Comment Type T Comment Status D Functional (buck There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response implements suggested remedy. Resolve using the response to comment #299 C/ 184 SC 184.4.1 P 445 L 12 # 178 Brown, Matt Alphawave Semi Comment Type T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. W	C/ 184	SC 1	84.4.1	P 445		L 5	# 89
There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response implements suggested remedy. Resolve using the response to comment #299 C/ 184 SC 184.4.1 P445 L12 # 178 Brown, Matt Comment Type T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license.	Huber, The	omas		Nokia			
There are always many implementation options, but we don't have to describe them in the document, we just have to describe the behavior that is required. SuggestedRemedy Delete "when implemented" from the first sentence, and delete the second paragraph. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Comment #299 response implements suggested remedy. Resolve using the response to comment #299 C/ 184 SC 184.4.1 P445 L12 # 178 Brown, Matt Comment Type T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license.	Comment	Гүре	т	Comment Status D			Functional (bucke
Brown, Matt Alphawave Semi Comment Type T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. W	Proposed I PROP Comm	Respons OSED A ent #29	se ACCEPT IN 9 response	Response Status W N PRINCIPLE.			secona paragraph.
Comment Type T Comment Status D Functional (Buck The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. W	C/ 184	SC 1	84.4.1	P 445		L12	# 178
The process provided in 184.4.1 "Alignment lock and deskew" merely maps bits on the FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license.	Brown, Ma	tt		Alphawa	ve Semi		
 FEC service interface to vectors; it does not include and RS-FEC symbol alignment. The process in 184.4.2 remaps the vectors such that there is alignment to the RS-FEC symbol and the lanes are properly ordered. SuggestedRemedy Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license. 	Comment	Гуре	т	Comment Status D			Functional (Bucke
Either combine the two subclauses and process into one subclause or move the RS-FEC symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license.	FEC se proces	ervice in s in 184	terface to	vectors; it does not in os the vectors such th	lude and l	RS-FEC sy	mbol alignment. The
symbol alignment process in 184.4.2 to 184.4.1. Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license.	Suggested	Remed	/				
PROPOSED ACCEPT IN PRINCIPLE. Implement the following with editorial license.	Either						
Implement the following with editorial license.	symbo	combine				subclause	or move the RS-FEC
	-	combine I alignm	ent proces	s in 184.4.2 to 184.4.	l.	subclause	or move the RS-FEC

P445

L3

299

TYPE: TR/technical required ER/editorial required GR/gener	C/ 184	Page 125 of 137	
COMMENT STATUS: D/dispatched A/accepted R/rejected	RESPONSE STATUS: O/open W/written C/closed Z/withdrawn	SC 184.4.1	5/31/2024 10:47:14 AM
SORT ORDER: Clause, Subclause, page, line			

C/ 184	SC 184.4.1	P 445	L12	# 90	C/ 184	SC 184.4.2	P 445	L 22	# 179
Huber, Th	iomas	Nokia			Brown, Ma	att	Alphawave S	Semi	
Comment	Туре Т	Comment Status D		Functional (Bucket)	Comment	Туре Т	Comment Status D		Reorder (Bucket)
simply neede	/ aligning them ba ed.	this mapping? There are 32 Ised on the RS FEC frame, s			requir manda	ed (or optional) if	ess is stated as being optiona the lanes are already in ord may not be in order (e.g., co an optional	er (e.g., connecte	ed to a PCS above) and
Suggested	•				Suggested				
		mapping process is needed,	or delete it.		00		ences in 184.4.2 to "If the su	blaver above the	Inner FEC does not
PROF	Response POSED ACCEPT				provid	e the PCS lanes	in order at the service interfaceording to the PCS lane r	ace, the lane reo	
	ext to explain the p ment with editoria	ourpose of this mapping. I license.			Proposed PROF	Response OSED ACCEPT	Response Status W		
C/ 184	SC 184.4.2	P 445	L 19	# 300	C/ 184	SC 184.4.2	P445	L 22	# 04
Loewenth	al, Arnon	alphawave se	emi					L 22	# 91
Comment		Comment Status D		Reorder. (Bucket)	Huber, Th		Nokia		
praction 15 and	ce full lanes reord d flow-1 on lanes	he lanes reorder requiremen er is optional, but partial reo 16-31 is required. Not doing	rder, meaning h	aving flow-0 on lanes 0-		eordering is not	Comment Status D optional; the lanes have to b order, it's a simple process.	e put in the corre	Reorder (Bucket) ect order. If they happen
•	mance and margi	115.			Suggestee	-			
	ptions:	ionall from line 00				e the second se ding to the PCS I	ntence to say "The lane reor ane number."	der process shal	I order the PCS lanes
		ional' from line 22. of having flow-0 on lanes 0-	15 and flow-1 o	n lanes 16-31.	Proposed	Response	Response Status W		
Proposed	Response	Response Status W				OSED ACCEPT	IN PRINCIPLE.		
Implei		with editorial license.			C/ 184	SC 184.4.2	P 445	L 26	# 92
		ase, the optional lane reord			Huber, Th	omas	Nokia		
		ane number." to: "The lane re PCS lane number."	eorder function s	shall order the PCS	Comment		Comment Status D		Reorder (Bucket)
lanes						51	description is needed. Other	clauses about r	()
					Suggested	Remedy			
					Delete	the last paragra	ph		
					Proposed	Response	Response Status W		
					-	OSED ACCEPT	IN PRINCIPLE. oonse to comment #178		
			, , ,						
		d ER/editorial required GR/		d T/technical E/editorial G/			C/ 1		Page 126 of 13

COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn

SORT ORDER: Clause, Subclause, page, line

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C/ 184	SC 184.	4.3	P44	46	L 1	#	93
Huber, The	omas		Nokia				
Comment	Туре Т	Corr	nment Status	D		Re	order (Bucket)

This figure is not clear, nor is the relationship of the figure to the pseudocode beneath it. I think the columns 0-3 are just numbers that relate to the post-FEC distribution process. I have no idea why there are 32 sets of 4 symbols, as the algorithm doesn't do anything on a four-symbol basis. The function is simply reversing flow1 and flow0 every two columns, so that each lane has interleaved symbols from all four codewords. This could be described more simply by using blocks of 16 symbols in the figure (i.e.., block 0 would be lanes 0-15 in column 0, block 1 would be lanes 16-31 in column 0, etc.).

SuggestedRemedy

Revise the figure as suggested. The input side would look like this (where each row here is corresponding to 16 PCS lanes i nthe figure):

0 2 4 6 1 3 5 7 and the output would be 0 2 5 7 1 3 4 6

This will remove any confusion about whether the 32 blocks are supposed to be somehow related to the 32 PCS lanes, and it will be it easier to see what is changing between the figures.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the suggested remedy with editorial license.

C/ 184	SC 184.4.3	P 446	L 45	# 94
Huber, Th	nomas	Nokia		
Comment	Type T	Comment Status D		Algorithm (Bucket)

The algorithm is unnecessarily complex. There is no need for bit-level detail since the operation is performed on 10-bit symbols - though really it seems to be performed on 160-bit entities. Per figure 184-3, it's essentially receiving as input alternating sets of 160 bits from flow0 and flow1, and changing the order from 0, 1,

SuggestedRemedy

A minimal change would be to state that the algorithm operates on 10-bit symbols, delete the for jà loop and its terminator, and replace "10i+j" with "I" in the statement that describes the permutation..

Another option would be to rewrite the description around the 160-bit entities as described, and perhaps also change the figure to show those instead of 40-bit entities (which as noted in a previous comment seem to have no relevance to this process, or to the convolutional interleaver process that follows it).

Proposed Response Response Status W

PROPOSED REJECT.

The algorithm is correct (and explicit) as written. This bit-wise mapping shows explicitly how the bits are mapped into the larger vector.

Removing j does not seem to add clarity, better have the detailed function as described in the adopted baseline

C/ 184	SC 184.4.4	P 447	L 22	# 95
Huber, Th	nomas	Nokia		
Comment	Tvpe T	Comment Status D		Algorithm (Bucket)

The description of the convolutional interleaver process could be improved. The variable i is used in the first part of the subclause as an index for the delay lines and as an indication of time within a sequence. Then at the bottom of page 447 it's used a symbol index.

SuggestedRemedy

Revise the list above the figure to read as follows, eliminating the overleading of the index i and improving the clarity a bit (and change the figure to label the lines as b=0, b=1, b-2):: a) The input and output switches are always aligned to the same row b, where b = 0 to 2 b) a block of 40 bits is read from row b

c) The concents of row b are shifted to the right by 40 bits

d) A block of 40 bits is written to row b

e) The switch position is updated to (b+1) mod 3

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement suggested remedy with editorial license.

C/ 184 SC 184.4.4 Page 127 of 137 5/31/2024 10:47:14 AM

C/ 184	SC	184.4.4	P 447	L 48	# 96
Huber, The	omas		Nokia		
Comment	Туре	т	Comment Status D		Algorithm (Bucket)
in havi	ing an a	algorithm t	interleaver operates sepa hat includes the PCS lane include bit-level descriptio	s. Since it operate	
Suggested	Reme	dy			
			describes the operation o		
Proposed	Respo	nse	Response Status W		
		t as writte		al al a state a la atta a la a	use the state lead from the s
Remov as des	ving the	e lanes and	n. d bits does not seem to ad pted baseline. P 448	d clarity, better ha	we the detailed function # 97
Remov as des Cl 184	ving the scribed SC	e lanes and in the ado	d bits does not seem to ad pted baseline.		
Remov as des C/ 184 Huber, The Comment	ving the scribed SC omas Type	e lanes and in the ado 184.4.4 T	d bits does not seem to ad pted baseline. P 448	L 3	# 97 Algorithm

SuggestedRemedy

The text above figure 184-4 already provides an algorithmix description of how the interleaver works. Rather than a second algorithmic description, it might be better to show the worked example as noted in the comment - i.e., show a table of input blocks from 0 to 42, and the corresponding output blocks.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #613

C/ 184	SC 184.4.4	P 448	L 5	# 613
Huang, Ke	echao	Huawei Techr	nologies Co., Lto	d.
Comment	Туре т	Comment Status D		Algorithm
	rmo[p, 40x(i-18x ve value	i mod 3)+j], the column index	x 40x(i-18x i moo	d 3)+j may be a
Suggested	IRemedy			
00	8x i mod 3)+j] w	ntence after Line 9: When 40: ill be undetermined value fron	` '	, , , ,
Proposed	Response	Response Status W		
•	e following sente	g with editorial license. ence after Line 9: "When 40x(i-18x i mod 3)+j	is negative, permo is
C/ 184	SC 184.4.5	P448	L 12	# 98
Huber, Th	omas	Nokia		
Comment	Туре Т	Comment Status D		Algorithm (Bucket)
				Algoninin (Duckel)
The fir The se		ould not be a 'shall' (which ind s correct, in that there are 32 n encoder.		em of conformance).
The fir The se	econd sentence i each lane has a	s correct, in that there are 32		em of conformance).

Revise the paragraph to read: The BCH encoder works in conjunction with the RS(544,514) FEC to increase the FEC coding gain. There is a BCH encoder process for each PCS lane.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

Implement the following with editorial license .

Change: "The BCH encoder shall work in conjunction with the outer RS(544,514) FEC to provide a high-performance FEC for 800GBASE-LR1. There are 32 BCH encoder functions." to: "The BCH encoder works in conjunction with the outer RS(544,514) FEC to provide a high-performance FEC for 800GBASE-LR1. The Inner FEC shall implement 32 BCH encoder functions."

C/ 184 SC 184.4.5

	SC 184.4.5	P 448	L 40	# 99	C/ 184	SC 184.4.7.1	P 450	L12	# 101
Huber, Tho	omas	Nokia			Huber, Th	omas	Nokia		
Comment	Туре т	Comment Status D		Algorithm (Bucket)	Comment	Туре Т	Comment Status D		Order (Bucke
the par have a	ity polynomial. Sir	verloaded - it is used at line nee the BCH encoding is do the lane number. The text vidually.	one per lane, the	ere is really no need to	under S <i>uggested</i>	BCH interleaver. <i>Remedy</i>		e of its own, rathe	er than a sub-clause
Suggested	Remedy				-	e to a level 3 hea	ading		
each la	ane. The encoding	e dashed list to say "The B of of each BCH codeword emove the 'for pà' loop from	u is deined as fo	ollows:	The "E BCH ii	OSED ACCEPT CH interleaver" to terleaver and pil	unction includes the pilot ins ot insertion"	sertion. Change of	clause 184.4.7 title to:
Proposed I	Response	Response Status W			Impler	nent with editoria	l license.		
-	OSED ACCEPT IN	-			C/ 184	SC 184.4.7.1	P 450	L14	# 371
	ving the lane does bed in the accepted	not seem to add clarity, be	tter have the de	tailed function as	He, Xiang		Huawei		
		om p to q to remove p over	load.		Comment	Type TR	Comment Status D		DSP (Bucke
C/ 184 Huber, Tho		P 449 Nokia	L16	# 100	messa	ge blocks)." Figure 184-5, me	nbols (PS) are inserted even essage blocks m<0:63>, m<	-	
Comment		Comment Status D		Algorithm (Bucket)	Suggested	Remedv			
Clorify									
Clarify Suggested		hift is applied per lane.			Chang		h the text, i.e., change m<0:	63> to m<0:62>,	change m<64:127> to
Suggested Make s unnece stating	<i>Remedy</i> similar changes to essary variable p a that the circular s	what was suggested in pre and associated for loop in th hift process is performed o	ne pseudocode,	and add a sentence	Chang m<63: Proposed PROP	e Figure to matc 125>, etc. Response OSED ACCEPT	Response Status W IN PRINCIPLE.		change m<64:127> to
Suggested Make s unnece stating Proposed I	Remedy similar changes to essary variable p a that the circular si Response	what was suggested in pre and associated for loop in th hift process is performed of <i>Response Status</i> W	ne pseudocode,	and add a sentence	Chang m<63: Proposed PROP Impler	e Figure to matc 125>, etc. <i>Response</i> OSED ACCEPT nent suggested r	Response Status W IN PRINCIPLE. emedy with editorial license		
Make s Unnece stating Proposed P	Remedy similar changes to essary variable p a that the circular sl Response OSED ACCEPT IN	what was suggested in pre and associated for loop in th hift process is performed of <i>Response Status</i> W N PRINCIPLE.	ne pseudocode, n each lane indi [,]	and add a sentence vidually.	Chang m<63: Proposed PROP Impler Cl 184	e Figure to matc 125>, etc. Response OSED ACCEPT nent suggested r SC 184.4.7.1	Response Status W IN PRINCIPLE. emedy with editorial license P450		change m<64:127> to # 102
Auggested Make s unnece stating Proposed I PROPO Remov describ	Remedy similar changes to essary variable p a that the circular si Response OSED ACCEPT IN ving the lane does bed in the accepted	what was suggested in pre and associated for loop in th hift process is performed of <i>Response Status</i> W N PRINCIPLE. not seem to add clarity, be d baseline.	ne pseudocode, n each lane indi tter have the de	and add a sentence vidually. tailed function as	Chang m<63: Proposed PROP Impler Cl 184 Huber, Th	e Figure to matc 125>, etc. <i>Response</i> OSED ACCEPT nent suggested r SC 184.4.7.1 pmas	Response Status W IN PRINCIPLE. emedy with editorial license P 450 Nokia		# [102
uggested Make s unnece stating PROPO Remov describ Add a	Remedy similar changes to essary variable p a that the circular si Response OSED ACCEPT IN ving the lane does bed in the accepted sentence stating the	what was suggested in pre and associated for loop in th hift process is performed of <i>Response Status</i> W N PRINCIPLE. not seem to add clarity, be d baseline. hat the circular shift proces	ne pseudocode, n each lane indi tter have the de	and add a sentence vidually. tailed function as	Chang m<63: Proposed PROP Impler C/ 184 Huber, Th Comment	e Figure to matc 125>, etc. <i>Response</i> OSED ACCEPT nent suggested r SC 184.4.7.1 omas <i>Type</i> T	Response Status W IN PRINCIPLE. emedy with editorial license P450 Nokia Comment Status D	L18	# 102 DSP (Bucke
Suggested Make s unnece stating Proposed I PROPO Remov describ Add a	Remedy similar changes to essary variable p a that the circular si Response OSED ACCEPT IN ving the lane does bed in the accepted	what was suggested in pre and associated for loop in th hift process is performed of <i>Response Status</i> W N PRINCIPLE. not seem to add clarity, be d baseline. hat the circular shift proces	ne pseudocode, n each lane indi tter have the de	and add a sentence vidually. tailed function as	Chang m<63: Proposed PROP Impler Cl 184 Huber, Th Comment The fir	e Figure to matc 125>, etc. Response OSED ACCEPT nent suggested r SC 184.4.7.1 omas Type T st sentence of th	Response Status W IN PRINCIPLE. emedy with editorial license P 450 Nokia	L18	# <u>102</u> DSP (Bucke
uggested Make s unnece stating PROPO Remov describ Add a	Remedy similar changes to essary variable p a that the circular si Response OSED ACCEPT IN ving the lane does bed in the accepted sentence stating the	what was suggested in pre and associated for loop in th hift process is performed of <i>Response Status</i> W N PRINCIPLE. not seem to add clarity, be d baseline. hat the circular shift proces	ne pseudocode, n each lane indi tter have the de	and add a sentence vidually. tailed function as	Chang m<63: Proposed PROP Impler Cl 184 Huber, Th Comment The fir Suggested	e Figure to matc 125>, etc. Response OSED ACCEPT nent suggested r SC 184.4.7.1 omas Type T st sentence of th Remedy ce with "Two stre	Response Status W IN PRINCIPLE. emedy with editorial license P450 Nokia Comment Status D	L 18 Le written more cl	# <u>102</u> DSP (Bucke

C/ 184 SC 184.4.7.1

C/ 184	SC ·	184.4.7.2	P 450	L 45	# 103
Huber, The	omas		Nokia		
Comment	Туре	т	Comment Status D		DSP (Bucket)

It is not clear what "192 bits that are complemented with zeros" is intended to mean. Based on what is in Table 184-2, I think the intent is that a zero is inserted after each bit of the PRBS9 ouput to form the bit-pairs that become the PS symbols. Also, the text talks about 4-bit PS symbols, but Table 184-2 is showing bit-pairs for each component rather than 4-bit symbols without explaining that outputs 0 and 1 are for the X polarization (so the X PRBS is spread across outputs 0 and 1) and outputs 2 and 3 are for the Y polarization.

SuggestedRemedy

Revise the two pargraphs above table 184-1 to read as follows:

For both DSP frame_0 and DSP frame_1, the generator is initialized using the seed at the start of every DSP frame. The generator produces a sequence of 192 bits. A zero bit inserted after each bit to generate the bit-pairs that form the pilot symbos, which use the outer points of the 16QAM constellation.

The generator polynomial and seed values are shown in Figure 184-6 and listed in Table 184-1. The complete pilot sequence is shown in Table 184-2. The bit-pairs for the X polarization are distributed in a round-robin manner to outputs 0 and 1. The bit-pairs for the Y polarization are distributed in a round-robin manner to outputs 2 and 3.

C/ 184 SC 184 4 9	P 4	52
PROPOSED ACCEPT.		
Proposed Response	Response Status	W

0,10-	104.4.5	1 452	200	# 10 4
Huber, Thomas		Nokia		
Comment Type	т	Comment Status D		Interface (

Interface (Bucket)

104

The editor's note suggesting that the mapping to analog signals probably belongs in the PMD clause seems to make sense, in which case this clause is really not "DP-16QAM mapping", it's really just mapping to 4-level signals, which the PMD will then turn into DP-16QAM.

SuggestedRemedy

Change the title to "4-level signal mapper", and make the corresponding change in 184.5.3.

Proposed Response Response Status W

PROPOSED ACCEPT IN PRINCIPLE.

After the first sentence of subclause 184.4.9 add: "This four-level signals are used by the 800GBASE-LR1 PMD to generate a single optical DP-16QAM signal with orthogonal polarizations (see 185.4.2)." Implement with editorial license.

C/ 184	SC 184.4.9	P 452	L 50	# 105
Huber, The	omas	Nokia		
Comment	Туре Т	Comment Status D		Order (Bucket)
		be improved if it went BCH intersection of the symbol details then in the DSF	,	5 II 5;
Suggested	Remedy			

Revise so the flow is like this: 184.4.7 BCH interleaver 184.4.8 Four-level signal mapping (current 184.4.9, without subclauses) 184.4.9 DSP frame generation (current 184.4.7.1) 184.4.9.1 Pilot sequence (current 184.4.7.2 and 184.4.9.1)

Proposed Response Response Status W

PROPOSED REJECT.

The text is correct as written.

The actual order is the right one. It describes the bit blocks generation and handling, then the mapping to four levels.

C/ 184	SC 184.5.1	P 455	L 42	# 106
Huber, Th	iomas	Nokia		
Comment	Type T	Comment Status D		Interface (Bucket)

The paragraph that begins with "the signals Rx_Xi , Rx_XQ , à" doesn't seem to make sense. The Tx and Rx signals are not guaranteed to be the same (i.e., Tx_XI can be received as any of the four components), but the contents of Tx_XI aren't distibuted to all the Rx signals.

SuggestedRemedy

Revise to say: The signals Rx_XI , Rx_XQ , Rx_YI , and Rx_YQ each represent one of the corresponding Tx_XI , Tx_XQ , Tx_YI , Tx_YQ signals from the transmitting PMD. The association between Tx and Rx components is arbitary (e.g., Rx_XI can be any of the 4 Tx components).

Proposed Response Response Status W

PROPOSED ACCEPT.

/ 50

C/ 184 SC 184.5.1 Page 130 of 137 5/31/2024 10:47:14 AM

C/ 184	SC	184.5.8	P 4	57	L 45	# 107
Huber, Th	omas		Nokia	à		
Comment	Туре	т	Comment Status	D		Algorithm (Bucket)
			be made in the con eaver in earlier comm			s were requested for
Suggested	Remed	dy				
			lettered list and the ional interleaver.	algor	itm to align with wha	tever changes are
Proposed	Respor	nse	Response Status	w		
			IN PRINCIPLE. emedy with editorial	licen	se.	
C/ 184	SC	184.6.5	P 4	62	L1	# 372
He, Xiang			Huaw	vei		
Comment	Туре	TR	Comment Status	D		Diagrams
With th (This i	ne curre s a little	ent variable different	e list and state diagr from AM lock proces	ams ss ac	he other polarization this can not be ident ross PCS lanes, whe nd it may not be a pro	ified or reported. are it is way up in the
Suggested	Remed	dy				
			mer (value TBD) to i ut the other is still no			long enough after one
Proposed	•		Response Status	w		

PROPOSED ACCEPT IN PRINCIPLE.

The DSP lock state diagram is implemented per polarization, so there is an indication of sync per polarization. There are no timers defined for alarm indications in the standard. Add a status variable with mapping to MDIO address, to allow the user reading the status of the synchronization process per polarization.

[Editor's note: CC 184 45]

C/ 184	SC 184.6.5	P46	62	L 3	# 307
Bruckman	, Leon	Huaw	ei		
<i>Comment</i> Set TE	<i>Type</i> TR 3D values of N an	<i>Comment Status</i> d M	D		Diagrams (Bucket
Suggested Set N=	2	ntribution bruckman_	_3dj_01_2	241205	
PROP The fo	OSED ACCEPT	ion (referenced in the	e suggest	ed remedy) w	as reviewed by the
		e May Interim meetin	•	2di 01a 240	
https:/	/www.ieee802.org	e May Interim meetin g/3/dj/public/24_05/b ed remedy with edito	ruckman_		
https:/	www.ieee802.org	g/3/dj/public/24_05/b	ruckman_ rial licens		
https:/ Impler	/www.ieee802.org nent the suggeste SC 184.6.5	g/3/dj/public/24_05/b ed remedy with edito	ruckman_ rial licens	e.	5.pdf
https:/ Impler Cl 184	/www.ieee802.org nent the suggeste SC 184.6.5 d	g/3/dj/public/24_05/b ed remedy with edito P46	ruckman_ rial licens	e.	5.pdf

It seems that this should have been 'test_ps <= false' as the test_ps variable isn't initialised during reset in the LOCK_INIT state but used to control the GET_SYMBOL to FIND_1ST transition below.

SuggestedRemedy

Change 'test_sym <= false' to read 'test_ps <= false'.

Proposed Response Response Status W

PROPOSED ACCEPT.

C/ 184 SC 184.6.5

Law, David Comment T The va ALIGN Suggested Suggested Proposed I PROPO Implem C/ 184 He, Xiang Comment T Only "a Suggested It is re	Diagrams Construction lue for a given of consecutive PS stream required to exit Sug in subclause Proj in subclause 184.5.4 Construction the following He, construction Construction	nd M (the numbe piven polarization agram' aren't de place (I assume h includes the te here. blows, renumber match the expec	pected value for a 9 'DSP lock state o s' or its subclauses Id be defined in on	of consecutive PS eam required to er on't match the exp ed in Figure 184û9 EC state diagrams' nese values should nchronization and vith a pointer to this	Type a numbe zation s ols that lock) u 'Inner F est that frame s TBD.), dRemed sert a ne	polaria symbo frame 184.6 á Sugge 'DSP M are Suggested [1] Ins subcla
The va ALIGN Suggested Suggested Proposed I PROPO Implem Cl 184 He, Xiang Comment T Only "a Suggested It is re	lue for a given of consecutive PS stream required to exit ned in subclause in subclause 184.5.4 t 'The values of N and ng the following He, Correct ed value for a given	nd M (the numbe piven polarization agram' aren't de place (I assume h includes the te here. blows, renumber match the expec	S symbols matchir enter frame lock), a pected value for a 9 'DSP lock state o s' or its subclauses Id be defined in on a pilot removal' whi his subclause elsev	of consecutive PS eam required to er on't match the exp ed in Figure 184û9 EC state diagrams' nese values should nchronization and vith a pointer to this	e numbe zation s ols that lock) u 'Inner F est that frame s TBD.), dRemed sert a ne	N (the polari: symbo frame 184.6 á Sugge 'DSP M are Suggestee [1] Ins subcla
ALIGN Suggested Sugges Proposed I PROPO Implem Cl 184 He, Xiang Comment T Only "a Suggested It is re	of consecutive PS stream required to exit ned in subclause Sug in subclause 184.5.4 t 'The values of N and Ing the following He, Corr ed value for a given Sug	nd M (the numbe piven polarization agram' aren't de place (I assume h includes the te here. blows, renumber match the expec	enter frame lock), a spected value for a 9 'DSP lock state o s' or its subclauses Id be defined in on 4 pilot removal' whi his subclause elsev	eam required to er on't match the exp ed in Figure 184û9 EC state diagrams' nese values should nchronization and <i>i</i> th a pointer to this	zation s ols that lock) u 'Inner F est that frame s TBD.), dRemed sert a ne	polaria symbo frame 184.6 á Sugge 'DSP M are Suggested [1] Ins subcla
Sugges Proposed I PROPO Implem Cl 184 He, Xiang Comment T Only "a Suggested It is re	ned in subclause 384 in subclause 184.5.4 t 'The values of N and Ing the following He, Correct ed value for a given Sug	iagram' aren't dei place (I assume h includes the te here. bllows, renumberi match the expec	9 'DSP lock state of s' or its subclauses Id be defined in on d pilot removal' whi his subclause elsev	ed in Figure 184û9 EC state diagrams' nese values should nchronization and <i>i</i> th a pointer to this	lock) u 'Inner F est that frame s TBD.), dRemed sert a ne	frame 184.6 á Sugge 'DSP M are Suggestee [1] Ins subcla
PROPO Implem Cl 184 He, Xiang Comment T Only "a Suggested It is re	in subclause 184.5.4 t 'The values of N and Ing the following He, Corr ed value for a given Sug	h includes the te here. ollows, renumberi match the expec	d pilot removal' whi iis subclause elsev	nchronization and /ith a pointer to this /	frame s TBD.), dRemed sert a ne	Sugge 'DSP M are Suggestee [1] Ins subcla
Implem Cl 184 He, Xiang Comment T Only "a Suggested It is re	t 'The values of N and Cl - ng the following He, Corr ed value for a given Sug	h includes the te here. ollows, renumberi match the expec	d pilot removal' whi iis subclause elsev	nchronization and /ith a pointer to this /	frame s TBD.), dRemed sert a ne	DSP M are Suggestee [1] Ins subcla
He, Xiang Comment Only "a Suggested It is re	ng the following He, Corr ed value for a given Sug	match the expec	5.5 'Constants' as		sert a ne	[1] Ins subcla
Comment Only "a Suggested It is re	ed value for a given	match the expec	6.5 'Constants' as	v subclause 184.6.		subcla
Only "a <i>Suggested</i> It is re	ed value for a given Sug				ause.	
Suggested It is re	ed value for a given Sug					á
It is re	ed value for a given s			ants	.5 Cons	
	5		symbols that fail to	consecutive PS s	umber	M The n
where			exit frame lock (see	eam required to ex	zation s	polari: N
Proposed I PROP	e for a given Pro,		symbols matching enter frame lock (s			
Resolv	vhen TBD PS symbols tart_lock' description.					{2] In
			onse Status W	e Respon	Respor	Proposed
	d M are TBD."	ne values of N an	184.5.4 remove: "T	CCEPT IN PRINC agraph of clause 18 : "184.6.5 Constar	first pa	In the
	ed value for a given		symbols that fail to exit frame lock (see			polari
	e for a given	e 184.5.4)."	symbols matching	consecutive PS s	zation s	The n polari Assur
			enter frame lock (septed, add values	ment #307 is acce		In sub when
	Ū.	184.5.4). he expected valu e 184.5.4)."	exit frame lock (see	eam required to ex consecutive PS s	zation s umber o zation s	polari: N The n polari: Assur In sub

2a, 2ao						
Comment 7	Гуре	Е	Comment Status D			(editorial)
			nt_status' used in the LOSS ED states is misspelt.	S_OF_ALIGNMEN	T and	
Suggested	Reme	dy				
Sugges	st that	'alignnme	nt_status' should read 'aligi	nment_status'.		
Proposed F	Respo	nse	Response Status W			
			IN PRINCIPLE. I license and discretion.			
C/ 184	SC	184.8	P 464	L10	# 373	
He, Xiang			Huawei			
Comment 7	Гуре	TR	Comment Status D			Diagrams
Only "a	lignm	ent_valid"	is reported, not individual "	dsp_lock <x>" varia</x>	ables.	
Suggested	Reme	dy				
			ort both "dsp_lock <x>" in ta ne x aligned" for all PCS la</x>		did for PCS la	ne lock

P**463**

HPE

L6

558

ponse Status W INCIPLE.

to comment #372.

C/ 184 SC 184.8

C/ 185	SC 185	1	P 468	L19	# 323	C/ 185	SC	185.3		P 473	L 31	# 114
D'Ambros	sia, John		Futurewei, U.S	S. Subsidiary	of Huawei	Stassar, F	Peter		ł	-luawei Tech	nnologies	
Comment	Туре Т	R Co	omment Status D		Conditional PMA (bucket)	Comment	Туре	т	Comment St	atus D		Dela
correl	ation in Tab	e 169-3a.	igure 185-2 does not re There is no mention of a	800GBASE-I	R BM-PMA, 800GAU-I8			ed to be 3.0 of P8		es. Follow th	e same methodo	blogy as in 154 and
2C2,	800GAUI-8	C2M, 800G	BASE SM-PMA, 800GA	UI-4 C2C, a	nd 800GAUI-4 C2M.	Suggestee	dReme	dy				
Baseline Proposal in https://www.ieee802.org/3/dj/public/23_07/kota_3dj_01a_2307.pdf shows support for 800GAUI's.							outed b	y the 800		D including	2 m of fiber in on	one end of the link e direction shall be no
Suggeste	dRemedy											for bit times and
			ated to reflect these laye	ers.					found in 169.4 a			
	185-1needs GBASE-R I					Proposed	Respo	nse	Response Sta	atus W		
)GAU-18 2C					-			IN PRINCIPLE.			
800	GAUI-8 C2	M - optiona	al						ted remedy and	update Tabl	e 169-4 with edit	torial license.
)GBASE SM)GAUI-4 C2					For C	RG also	cussion.				
)GAUI-4 C2)GAUI-4 C2					C/ 185	SC	185.5.1		P 477	L 8	# 381
Add r	ote "C= Cor	ditional, 80		conditional,	pending implementation	Maniloff, I	Eric		(Ciena		
	GAUI-8 C2		onditional, pending imple	montation of		Comment	Туре	т	Comment St	atus D		TX spec
8000	DAGE-N SIV		finational, pending imple		1 000GA01-4 C2C/C2M	The s	pecifica	tion shou	ld have a Tx clo	ck noise defi	ned.	
					be added to legend below	Suggeste	Reme	dv				
			dated to show the 800G and Inner FEC	BASE-R PM	A Sublayer and service	00		•	ock phase noise ((PN)· Maxim	um PN mask	
							,		•	()		
•	Response		sponse Status W			Add a	n entry	for: Tx c	lock phase noise	(PN); Maxii	num total integra	ated random jitter
Some		d condition	al sublayers are missing		185-1 and the conditions	Add a	n entry	for: Tx cl	ock phase noise	(PN); Maxin	num total periodi	c jitter
			BM-PMA should be incl		table. ause the 800GBASE-LR1	Proposed	Respo	nse	Response Sta	atus W		
			s directly with the PCS;			PROF	OSED	ACCEPT	IN PRINCIPLE.			
PCS	and the 800	GBASE-LR	1 Inner FEC. Note that	the 800GBA	SE-LR1 Inner FEC	Imple	ment su	iggest rei	medy with editori	al license.		
			ervices normally provide	d by a PMA	for the PMD.							
	he following BASE-R BN											
	AUI-8 C2C -											
	AUI-8 C2M											
	BASE SM-P AUI-4 C2C -		itional									
	AUI-4 C2M											
Reso	ve the conc	ern about c		BM-PMA re	lated to Table 185-1 using							
	sponse to c											
Imple	ment with e	aitorial licer	nse.									

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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C/ 185	00 405 5 4									
	SC 185.5.1	P 477	L 8	# 380	C/ 185	SC 185.5.1		P 477	L12	# 578
Maniloff, Eric		Ciena			Kota, Kishor	e	Μ	arvell Semi	conductor	
Comment Typ	pe T	Comment Status D		TX specs	Comment Ty	pe TR	Comment Sta	tus D		(withdrawn)
the DSP of accommo	digital acquisition odate this. Valu to Table 185-4	defined to allow unlocked on range. Additional parameters will be provided after fur . A supporting contribution	eters are require ther study, but	ed for the Tx laser to the new paramaters can	has beer other col opportun	n defined in th nerent physica	e initial proposals al layer specificatio BASE-LR1 PMD t	as a specifi	cation on the ave for DWDM syste	module designs. This erage power following ems. However, there is h can relax module
	-	eters to Table 185-4:			SuggestedRe	emedy				
Maximum	n Tx laser frequ	ency slew rate: Preacquisiti ency slew rate: Post acquis	-	-	See http: initial pro	s://grouper.iee	ee.org/groups/802 on this concept. D	/3/dj/public/	23_11/kota_3dj_	ane instead of average. 01a_2311.pdf for an rovides an opportunity
Laser Rel	lative Frequenc	y tracking accuracy [Units (GHz]		Proposed Re PROPOS	sponse SED REJECT	Response Stat	us Z		
Proposed Res		Response Status W			This com	iment was WI	THDRAWN by the	e commente	er.	
	SED ACCEPT II wing presentation	-	.3dj task force	at the May Interim	C/ 185	SC 185.5.1		P 477	L15	# 579
The follow meeting:	wing presentation	on was reviewed by the 802			C/ 185 Kota, Kishor			P 477 arvell Semi	-	# 579
The follow meeting: https://ww	wing presentation	on was reviewed by the 802 /3/dj/public/24_05/maniloff_				e		arvell Semi	-	# 579 (withdrawn
The follow meeting: https://ww Implemen	wing presentation ww.ieee802.org, ht suggest reme SC 185.5.1	on was reviewed by the 802 (3/dj/public/24_05/maniloff_ ady with editorial license. P 477			Kota, Kishor <i>Comment Ty</i> The draft However	e pe TR contains sep , there is an c	M <i>Comment Sta</i> arate specificatior	arvell Semi tus D ns of X-Y po 00GBASE-L	conductor wer imbalances	
The follow meeting: https://ww Implemen C/ 185 Maniloff, Eric	wing presentation ww.ieee802.org, nt suggest reme SC 185.5.1	on was reviewed by the 802 (3/dj/public/24_05/maniloff_ edy with editorial license. P 477 Ciena	3dj_01_2405.p	df # 384	Kota, Kishor Comment Ty The draft However can relay	e pe TR contains sep , there is an c module trans	M <i>Comment Sta</i> parate specificatior pportunity for a 80	arvell Semi tus D ns of X-Y po 00GBASE-L	conductor wer imbalances	(withdrawn) and I-Q imbalance.
The follow meeting: https://ww Implemen C/ 185 Maniloff, Eric Comment Typ TQM is cu	wing presentation ww.ieee802.org, ht suggest reme SC 185.5.1 pe T	on was reviewed by the 802 (3/dj/public/24_05/maniloff_ edy with editorial license. P477 Ciena Comment Status D ed. Recommend adopting F	3dj_01_2405.p	df # <u>384</u> <i>TQM</i>	Kota, Kishor Comment Ty The draft However can relax SuggestedRe Having a and resu	e pe TR contains sep , there is an c module trans emedy a separate X- ¹ Its in a tighter	M Comment Sta parate specification poportunity for a 80 smit specifications Y and I-Q imbalan specification thar	arvell Semi tus D ns of X-Y po 00GBASE-L ce specifica	conductor wer imbalances R1 PMD to char tion splits the im . These specifica	<i>(withdrawn</i> and I-Q imbalance. nge this in a way which nbalance power budget
The follow meeting: https://ww Implemen C/ 185 Maniloff, Eric Comment Typ TQM is co Contributi SuggestedRe	wing presentation ww.ieee802.org, ht suggest reme SC 185.5.1 be T urrently undefini ion to be provid	on was reviewed by the 802 (3/dj/public/24_05/maniloff_ ady with editorial license. P477 Ciena Comment Status D ed. Recommend adopting F ed.	3dj_01_2405.p	df # <u>384</u> <i>TQM</i>	Kota, Kishor Comment Ty The draft However can relax SuggestedRe Having a and resu combine https://gr	e pe TR contains sep , there is an of module trans emedy a separate X- lts in a tighter d into a single ouper.ieee.or	M Comment Sta parate specification poportunity for a 80 smit specifications Y and I-Q imbalan specification thar e lane-to-lane imba	arvell Semi tus D ns of X-Y po DOGBASE-L ce specifica n necessary alance spec	conductor wer imbalances R1 PMD to char tion splits the im . These specifica ification. See	<i>(withdrawn</i> and I-Q imbalance. nge this in a way which nbalance power budget
The follow meeting: https://ww Implemen Cl 185 Maniloff, Eric Comment Typ TQM is ci Contributi SuggestedRe Replace 1	wing presentation ww.ieee802.org, ht suggest reme SC 185.5.1 be T urrently undefinition to be provide the provider to the prov	on was reviewed by the 802 (3/dj/public/24_05/maniloff_ ady with editorial license. P477 Ciena Comment Status D ed. Recommend adopting F ed.	3dj_01_2405.p	df # <u>384</u> <i>TQM</i>	Kota, Kishor Comment Ty The draft However can relax SuggestedRe Having a and resu combine https://gr	e pe TR contains sep , there is an o module trans emedy a separate X- ² lts in a tighter d into a single ouper.ieee.or tion methodo	M Comment Sta parate specification pportunity for a 80 smit specifications Y and I-Q imbalan specification thar clane-to-lane imba g/groups/802/3/dj/	arvell Semi tus D hs of X-Y po DOGBASE-L ce specifica necessary alance spec public/23_1	conductor wer imbalances R1 PMD to char tion splits the im . These specifica ification. See	<i>(withdrawn)</i> and I-Q imbalance. nge this in a way which abalance power budget ations should be
The follow meeting: https://ww Implemer Cl 185 Maniloff, Eric Comment Typ TQM is ci Contributi SuggestedRe Replace T Proposed Res PROPOS	wing presentation ww.ieee802.org, ht suggest reme SC 185.5.1 be T urrently undefinition to be provide emedy TQM with RSNI sponse SED REJECT.	on was reviewed by the 802 (3/dj/public/24_05/maniloff_ edy with editorial license. P477 Ciena Comment Status D ed. Recommend adopting R ed. R Penalty	3dj_01_2405.p 	df # <u>384</u> <i>TQM</i> as a TQM. Supporting	Kota, Kishor Comment Ty The draft However can relax SuggestedRe Having a and resu combine https://gr specifica Proposed Re	e pe TR contains sep , there is an o module trans emedy a separate X- ² lts in a tighter d into a single ouper.ieee.or tion methodo	M Comment Sta parate specification opportunity for a 80 smit specifications Y and I-Q imbalan specification thar e lane-to-lane imba g/groups/802/3/dj/ logy proposal. Response Stat	arvell Semi tus D hs of X-Y po DOGBASE-L ce specifica necessary alance spec public/23_1	conductor wer imbalances R1 PMD to char tion splits the im . These specifica ification. See	<i>(withdrawn</i> and I-Q imbalance. nge this in a way which abalance power budget ations should be

Minimum transmit power specification has a big impact on concretent module designs. This has been defined in the initial proposals as a specification on the average power following other coherent physical layer specifications defined for DWDM systems. However, there is opportunity for a 800GBASE-LR1 PMD to change this in a way which can relax module transmit specifications							
Suggested	lRemedy						
See ht initial p	tps://grouper.ieee	e.org/groups/802/3/c n this concept. Defir	lj/public/	23_11/kota_3dj_	ane instead of average. 01a_2311.pdf for an rovides an opportunity		
Proposed I	Response	Response Status	z				
PROP	OSED REJECT.						
This co	omment was WIT	HDRAWN by the co	ommente	er.			
C/ 185	SC 185.5.1	P 4	77	L15	# 579		
Kota, Kish	ore	Marv	ell Semi	conductor			
Comment	Type TR	Comment Status	D		(withdrawn)		
can rel Suggested	lax module transr IRemedy	nit specifications			ige this in a way which balance power budget		
combir https://	ned into a single l		ice spec	ification. See	ations should be 2311.pdf for an initial		
Proposed I PROP	Response OSED REJECT.	Response Status	z				
This co	omment was WIT	HDRAWN by the co	ommente	er.			
		2					
eral			C/ 18		Page 134 of 137		

(withdrawn)

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed Z/withdrawn SORT ORDER: Clause, Subclause, page, line

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Cl 185	SC 185.5.2	P 478	L15	# 580	C/ 185 SC 185.6	.3 P480	L 52	# 352
Kota, Kish	nore	Marvell Semic	onductor		Lambert, Angie	Corning		
Comment	Type TR	Comment Status D		(withdrawn)	Comment Type T	Comment Status D		IEC revision
be tied		(min) and the per-lane transite transmit quality metric similation			SuggestedRemedy	as been superseded by IEC 61		
Suggested	dRemedy				-	3-021-2" to "IEC 61753-021-02"	·.	
https:/ propos	/grouper.ieee.org/ sals on how to tie	.org/groups/802/3/dj/public/2 groups/802/3/dj/public/23_11 the RX sensitivity and TX pov ides flexibility to allow module	/kota_3dj_01a wer specificati	a_2311.pdf for initial ons with a transmit	Proposed Response PROPOSED ACCE Resolve using the r	Response Status W PT IN PRINCIPLE. esponse to comment #339.		
		ays which can benefit end use		explore design tradeons	C/ 185 SC 185.7	.1 P481	L 21	# 375
Proposed	Response	Response Status Z			He, Xiang	Huawei		
PROP	OSED REJECT.				Comment Type TR	Comment Status D		test pattern (bucket
This c	omment was WIT	HDRAWN by the commenter			The scrambled idle 175.2.4.11.	test pattern for 800GBASE-R	PCS is defined in	172.2.4.11, not
C/ 185	SC 185.5.3	P 478	L43	# 382	SuggestedRemedy			
Maniloff, E	Eric	Ciena			Change "175.2.4.1	I" to "172.2.4.11" and format a	s external referer	nce.
Comment	Туре Т	Comment Status D		optical channel specs	Proposed Response	Response Status W		
		opriate for Maximum discrete	e reflectance		PROPOSED ACCE	PT IN PRINCIPLE.	9.	
Suggested								"
Repla	ce TBD for Maxim	um discrete reflectance with	-27		C/ 185 SC 185.7		L 21	# 374
•	Response	Response Status W			He, Xiang	Huawei		
PROP	OSED ACCEPT.				Comment Type TR	Comment Status D		test pattern
C/ 185	SC 185.6	P 479	L 51	# 383	input to the 800GB	1 Inner FEC would not see or ASE-LR1 Inner FEC should be		
Maniloff, E	Eric	Ciena			800GBASE-R PCS	".		
Comment	Туре Т	Comment Status D		optical channel specs	SuggestedRemedy			
		opriate for Optical Return Los	S			scription" column in Table 185 and then encoded by the 8000		
Suggested	,	105 7 with 04			Proposed Response	Response Status W		
Repla	ce TBD in Table				PROPOSED ACCE	-		
	Response	Response Status W				ed remedy with editorial license		

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C/ 185 SC 185.11	.4.6 P490	L 27	# 353	C/ 186	SC 186	P 491	L1	# 108			
Lambert, Angie	Corning			Huber, Th	omas	Nokia					
Comment Type T	Comment Status D		IEC revision	Comment	Туре Т	Comment Status D		(bucket)			
	s been superseded by IEC 6175	53-021-02.			aseline for the 8 der sublayer is 1	300GBASE-ER1[-20] PCS ha used.	s issues with PTI	P accuracy when an			
SuggestedRemedy Change "IEC 61753-021-2" to "IEC 61753-021-02". Proposed Response Response Status W PROPOSED ACCEPT IN PRINCIPLE. Resolve using the response to comment #339.					dRemedy						
					Update the baseline per presentations in the May meeting proposing a mechanism to reduce the PTP inaccuracy.						
					Response	Response Status W					
C/ 186 SC 186	P 491	# 334	PROPOSED ACCEPT IN PRINCIPLE. Resolve using the proposal in https://www.ieee802.org/3/dj/public/24_05/sluyski_3dj_01a_2405.pdf, which was presented								
de Koos, Andras Comment Type T	Microchip Tec Comment Status D	chnology	(bucket)		May interim me al license.	eting. Impelemnt the sugges	ted remedy in slu	uyski_3dj_01a_2405 with			
ER1 PCS: Planting	the seed for when the PCS is repath data delay across the ER1		rly reviewed.	C/ 187	SC 187.3	P 497	L 31	# 115			
90A give general rules, like how to calculate the rx/tx path data delay when there are functions within the PHY that introduce cyclical delay. But the path data delay in the ER1 PCS is very different from anything that has been imagined in Clause 90 - an Ethernet stream that floats within a GMP frame will present unique challenges; it is not immediately clear how to determine the min/max latency across					Peter	Huawei Tec	hnologies				
					Туре Т	Comment Status D		Delay			
					The TBDs need to be replaced by values. Follow the same methodology as in 154 and latest draft D3.0 of P802.3cw						
such a PCS.				Suggested	dRemedy						
SuggestedRemedy	than the Alignment marker issu	le!		contril more A des	outed by the 80 than 16 384 bit cription of overa	The sum of the transmit and l 0GBASE-LR1 PMD including times (32 pause_quanta or 2 all system delay constraints a	2 m of fiber in or 0.48 ns). nd the definitions	ne direction shall be no			
Proposed Response	Response Status W			pause	_quanta can be	found in 169.4 and its refere	nces.				
PROPOSED REJECT. The suggested remedy does not provide sufficient detail to implement.						Response Status W T IN PRINCIPLE. sted remedy and update Tab	le 169-4 with edi	torial license.			

C/ 187 SC 187.3

C/ 187 SC 187.5	P 502	L17	# 117	Cl 187 SC 187.6	P 503	L 44	# 116
Stassar, Peter	Huawei Techr	nologies		Stassar, Peter	Huawei Tecl	hnologies	
Comment Type T	Comment Status D		RX specs	Comment Type T	Comment Status D		optical channel specs
	154 and draft Clause 156 in D as been used, which is a comr			min and max disper	n does not occur around 1550 n rsion as in draft D3.0 of P802.30 vavelength close to 1550 nm		
SuggestedRemedy				SuggestedRemedy			
For Receiver reflectan	ce (max) replace TBD by 20 d	B for both ER1	-20 and ER1		lispersion (max)" by "Chromatic		
Proposed Response	Response Status W) ps/nm for ER1. Replace "Nega ith value 0 ps/nm for both ER1-		
PROPOSED ACCEPT				Proposed Response	Response Status W		
C/ 187 SC 187.5.1 Huber, Thomas	Р 501 Nokia	L 8	# 109	PROPOSED ACCE Implement suggest	PT IN PRINCIPLE. remedy with editorial license.		
Comment Type T	Comment Status D		TX specs	C/ 187 SC 187.6	.3 P504	L48	# 354
	PMD should be 20 ppm			Lambert, Angie	Corning		
uggestedRemedy				Comment Type T	Comment Status D		IEC revisior
Repalce TBD with 20				IEC 61753-021-2 h	as been superseded by IEC 617	753-021-02.	
Proposed Response	Response Status W			SuggestedRemedy			
PROPOSED ACCEPT	IN PRINCIPLE. Implement s	uggest remedy	with editorial license.	Change "IEC 61753	3-021-2" to "IEC 61753-021-02"		
C/ 187 SC 187.5.2	P 501	L 8	# 110	Proposed Response PROPOSED ACCE	Response Status W		
Huber, Thomas	Nokia				esponse to comment #339.		
Comment Type T	Comment Status D S PMD should be 20 ppm		TX specs	C/ 187 SC 187.1	1.4.6 <i>P</i> 514	L 25	# <u>355</u>
	FIND Should be 20 ppm			Lambert, Angie	Corning		
SuggestedRemedy				Comment Type T	Comment Status D		IEC revision
Repalce TBD with 20	_			IEC 61753-021-2 h	as been superseded by IEC 617	753-021-02.	
Proposed Response	Response Status W			SuggestedRemedy			
PROPOSED ACCEPT	medy with editorial license.			Change "IEC 61753	3-021-2" to "IEC 61753-021-02"		
				Proposed Response	Response Status W		
				PROPOSED ACCE Resolve using the r	PT IN PRINCIPLE. esponse to comment #339.		

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